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RADIOTHERAPY OF EARLY CANCER OF THE LARYNX

Five Year Results in One Hundred and Fifty Six Cases

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Although cancer of the larynx is one of the less common forms of neoplastic disease, it is nevertheless one of the most important Several aspects of laryngeal cancer command special attention The majority of esions affect the true vocal cord, and hoarseness is an early symptom in 95 per cent of the cases Early lesions are curable in more than 80 per cent of cases by a limited operation or by radiotherapy, with little impairment of the voice, and finally many lesions too advanced for laryngofissure and formerly requiring total laryngectomy are now curable as a result of recent advances in radiotherapy, with restoration of voice to a normal or nearly normal state Here, then, is a combination of favorable factors related to early diagnosis and effective treatment which render this disease one of the most hopeful of all the major forms of cancer

The purpose of this report is to present the results of radiotherapy in a consecutive series of 156 microscopically proved cancers of the larynx treated in the Chicago Tumor Institute from April 1938 through June 1944,[1] with a minimum observation period of five years[2]

In 1922 Regaud, Coutard and and Hautant[3] recorded the first successful results of radiotherapy in laryngeal cancer This report dealt with 6 advanced inoperable carcinomas treated with roentgen rays Ten years later Coutard[4] reported 27 per cent five year cures in a series of 142 patients treated in the Curie Institute of Paris Ahlbom's[5] series reported in 1941, consisted of 76 patients treated in the Radiumhemmet, Stockholm, between 1930 and 1939 Only 13 lesions were limited to the vocal cord, and all were cured either by laryngofissure and postoperative telecurietherapy or by telecurietherapy alone Two-thirds of the advanced lesions were cured by laryngectomy and postoperative irradiation In 1947 Lenz[6] reported 27 per cent cures in 110 mostly advanced cases of cancer treated with roentgen rays In 1946 Baclesse[7] reported 17 per cent five year cures among 341 carcinomas of the endolarynx Most of the lesions were advanced In 1948 the same author[8] was able to show a marked improvement in results by citing 34 per cent five year cures for the years 1940 to 1942 as compared with 17 per cent between 1919 and 1939 This improvement Baclesse attributed to an increase in the dose and the treatment time and a reduction of the size of the fields

There has been a recent trend toward the treatment of operable lesions by radiotherapy which has resulted in several reports, notably by Blady and Chamberlain,[9] Lederman,[10] Harris[11] and Cutler In 1944 Blady and Chamberlain reported five year results in 36 patients 23 of whom had intrinsic lesions The net five year survival for this latter group of 23 patients was 59 per cent Kramer,[12] in 1946, reported 32 early lesions of the vocal cord treated by Harris in the Mount Sinai Hospital, New York Twenty-two of 26 patients treated three or more years prior to the report were free from disease, an 85 per cent cure rate, which the author cites as comparing favorably with the best results of laryngofissure This high curability illustrates what can be accomplished by adequate radiotherapy of selected early lesions In 1947 Harris, Kramer and Silverstone[13] reported 55 per cent five year cures in 80 patients treated with roentgen rays (73 per cent for intrinsic lesions and 40 per cent for extrinsic lesions) In 1946 I[14] reported 42 per cent five year cures among 47 p tients, 31 of whom had extrinsic inoperable lesions The curability in the operable group was approximately 50 per cent Lederman,[10] in 1947 reported on 40 patients treated with teleradium, of whom 14 were free from disease after five years Twelve of 17 operable lesions were apparently cured

In regard to the results of laryngectomy, the high curability of 73 5 per cent cited by MacKenty[15] in 1929 is readily [illegible]ned by the fact that in a large proportion of his ca[illegible] the carcinoma was so early as to be curable either by [illegible]ngofissure or radiotherapy The

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Dr L. B Bernheimer helped with the surgical aspects of this problem

From the Chicago Tumor Institute. Aided by grants from the National Cancer Institute

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[1] Fifty two patients were selected for treatment at the Institute from among those seen at the Veterans Administration Hospital Hines Ill

[2] This is a further study of 107 patients treated between 1938 and 1942 and presented at the Thirty third Annual Meeting of the Radiological Society of North America Boston Nov 30-Dec. 5 1947

[3] Regaud C Coutard H and Hautant, A. Rapport sur la Curie therapie et la roentgentherapie dans le cancer du larynx Ann d mal. de l oreille du larynx **41** 967 969 1922

[4] Coutard H Roentgen Therapy of Epitheliomas of Tonsillar Region ypopharynx and Larynx from 1920 to 1926 Am J Roentgenol **28** *313 331 1932*

[5] Ahlbom H E Die Resultate der Strahlenbehandlung von endolaryngealen Karzinomen am Radiumhemmet Stockholm von 1930 bis 1939 Acta radiol. **22** 539 546 1941

[6] Lenz, M Roentgen herapy in *Cancer of the Larynx J A M A* **134** 117 121 (May 10) 1947

[7] Baclesse F Radiothérapie des cancers du larynx (endolarynx) Résultats eloignés obtenus dans 341 cas irradies a la Fondation Curie J de radiol et d electrol **27** 63 64 1946

[8] Baclesse F La roentgentherapie des canceres du. larynx (resultats apres cinq ans.) Bul du cancer **35** 399-403 1948

[9] Blady J V and Chamberlain W E Treatment of Cancer of Larynx by Roentgen Irradiation Am J Roentgenol **51** 481-495 1944

[10] Lederman, M. Personal communication to the author

[11] Harris W cited by Kramer[12]

[12] Kramer R. Radiation Therapy in Early Laryngeal Cancer J Mt Sinai Hosp **14** 24-28 1947

[13] Harris W Kramer R and Silverstone, S M Roentgen Therapy for Carcinoma of the Larynx Fifteen Years Experience Radiology **51** 708 716 1948

[14] *Cutler M Cancer of the Larynx Five Year Results of Concen*tration Radiotherapy Arch Otolaryng **43** 315 330 (April) 1946

[15] MacKenty J E. Laryngeal Cancer Early Diagnosis and Treatment, Arch. Otolaryng **9** 237 244 (March) 1929

exceptionally low curability of 15 per cent cited by such pioneer laryngologists as Gluck and Soerenssen[16] is due to the fact that they accepted for operation many cancers which others would have rejected as inoperable In 1945 Colledge[17] reported 60 per cent cures by laryngectomy and Martin[18] 58 per cent (of 36 cases) New and Waugh,[19] in 1934, reported 56 1 per cent, and more recently (1947) New, Figi and others[20] reported 60 2 per cent of traced patients well five years after laryngectomy, with a hospital mortality of only 1 9 per cent (104 laryngectomies, 88 patients traced) As a result of important advances in preoperative and postoperative care, the mortality of laryngectomy has been reduced to such a low figure that the primary risk in patients of good physical condition need no longer contraindicate the operation

CLASSIFICATION

In the past it has been customary to divide cancer of the larynx into two main forms, extrinsic and intrinsic Some confusion exists as to the exact definition of these terms, depending on whether the author's classification is anatomic or surgical The anatomic classification refers to the primary site of origin of a lesion, regardless of its subsequent extension Thus, all tumors which arise within the larynx, regardless of their extension to the pharynx, remain by definition intrinsic According to the surgical classification, extrinsic carcinoma includes lesions arising in the aryepiglottic folds, piriform fossae and postcricoid region as well as those arising within the laryngeal cavity which have spread outside the boundaries of the larynx

For practical purposes I have used two classifications in this report One is based on mobility of the laryngeal structures and the other on surgical indications The former classification is useful because it has been our experience that partial or complete mobility generally indicates radiosensitivity and radiocurability Classification based on operability and on whether the lesion is amenable to laryngofissure or laryngectomy permits a comparison of surgical and radiotherapeutic results

TECHNIC

The term concentration radiotherapy was introduced by me[21] to emphasize two factors the administration of a large total dose in a relatively short period (eighteen days) and the use of an increasing dose through a diminishing portal The principles and technic of this method have been previously recorded In the divided dose technic roentgen treatments are given daily to two lateral fields The treatment period varies between four and six weeks and the total dose between 6,000 and 7,000 r In the technic used by my colleagues and me the treatment is much more intense Thus, instead of 6,000 to 7,000 r in four to six weeks to two fields, between 6,000 and 6,500 r, measured on the skin, are given in eighteen days to one field For the smaller lesions the dose is increased daily as the size of the portal is diminished

Experience has taught us that the more radioresistant lesions require not only a larger total dose but also a larger daily dose, thus, a superficial papillary carcinoma of the true cord can be cured by 3,000 r units given through each of two portals in thirty to forty days, but a more extensive squamous carcinoma which has caused partial or almost complete fixation of the laryngeal structures requires more intense irradiation

Most of the patients have been treated with 400 kilovolt roentgen rays and telecurietherapy A small number have been treated with 200 kilovolt roentgen rays The average roentgen intensity has been about 7 r per minute With certain exceptions, the size of the field was reduced as the dose was increased

The eleven day technic formerly used yields excellent results in advanced lesions, but, as previously reported, it is too intense for certain patients, hence, as of July 1945 the treatment time was increased to eighteen and sometimes twenty days The following technic is currently in use

1 For early intrinsic carcinoma of one or both true or false cords with complete or partial mobility 400 kilovolts, 5 milliamperes, filter, 5 mm of copper, distance, 84 to 115 cm, single lateral port, 5 by 5 cm, gradually diminished to 3 by 3 cm, average intensity, about 7 r per minute, two equal treatments daily for eighteen days, beginning with 100 r twice a day and increasing to 250 r twice a day, total dose, 6,000 r measured on the skin

2 For more extensive intrinsic and for extrinsic carcinoma with or without regional cervical metastasis and with partial or complete fixation 400 kilovolts, 5 milliamperes, filter, 7 to 8 mm of copper, distance, 75 to 80 cm, single lateral port, 7 by 5 cm gradually diminished to 4 by 3 cm, average intensity, about 6 r per minute, two equal treatments for eighteen days, beginning with 85 r twice a day and increasing to 275 r twice a day, total dose, 6,500 r measured on the skin Areas of metastasis too extensive to be included in the fields receive additional irradiation

Telecurietherapy—Much credit is due to Janeway and Quick for pioneer work in the radium treatment of cancer of the larynx Some striking results are recorded by Quick[22] in the Janeway Memorial Lecture delivered at the Fifth International Congress of Radiology in 1937 Subsequent interesting reports on radium treatment of cancer of the larynx include those of Harmer,[23] Ahlbom[6] and Colledge and Lederman[24]

The telecurietherapy apparatus[25] of the Chicago Tumor Institute contained 10 Gm of radium until September 1943, when 3 Gm was released for war purposes The apparatus has now been restored to its original strength The filter is 1 mm of platinum, the target skin distance is 12 5 cm and the portals vary from 4 by 4 cm to 8 cm in diameter

The following telecurietherapy technics are in use (*a*) 90,000 milligram hours to each of two lateral fields in eighteen days, field, 6 by 6 cm reduced to 5 by 5 cm, (*b*) 100,000 milligram hours to the side of the lesion and 40,000 milligram hours to the opposite side in twenty days, field, 8 cm in diameter for the first 100,000 milligram hours reduced to 6 by 6 cm for the last 40,000 milligram hours

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[21] Cutler, M Concentration Method of Radiotherapy for Cancer of the Mouth, Pharynx and Larynx, J A M A **117** 1607 1610 (Nov 8) 1941

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[23] Harmer, W D Relative Value of Radiotherapy in the Treatment of Cancers of the Upper Air Passages University of London Semon Lecture, London, John Murray, 1932, St Barth Hosp Rep **65** 17 101, 1932

[24] Colledge and Lederman,[17] pp 356 359

[25] The Union Minière du Haut Katanga made available the 10 Gm radium bomb

Complications—Patients with advanced cancer of the larynx are in poor general condition some are so ill that they die soon after irradiation is begun and a certain number die in connection with tracheotomy or gastrostomy As a group, therefore these patients have a poor prognosis from the beginning Deaths from bronchopneumonia are common as a natural consequence of the advanced disease It is not surprising, therefore that death occurs not infrequently at or about the height of the irradiation reaction by which it is often precipitated

The disintegration of the tissues in the tumor bed following irradiation results in a local defect from which the patient often cannot recover Under the most favorable conditions the carcinoma is sterilized and recovery ensues in spite of the extent of the original lesion In cases of advanced and more radioresistant lesions, however, the carcinoma may be only partly sterilized In these circumstances and it the patient survives the irradiation, the treatment is followed by varying periods of improvement, with ultimate recurrence and death These are the palliative results of radiotherapy When the lesion is uncontrolled and the local and general conditions are too unfavorable the patient fails to show an initial improvement continues to lose ground and dies soon after the irradiation generally of bronchopneumonia In still another group with advanced disease the lesion is sterilized in spite of its extent, but the patient succumbs soon after treatment and the autopsy shows no sign of the original cancer In this group it seems that the destruction ot an advanced lesion left a defect so extensive and in such relation to vital structures that it could not be repaired in time to prevent such fatal complications as infection or hemorrhage or both Undoubtedly the poor general condition of the patient is a crucial factor in these deaths Finally, an extensive carcinoma of the larynx may be sterilized but the advanced stage ot the disease, poor general condition of the patient and the intensity of the irradiation result in radionecrosis Laryngectomy has been performed in some of these cases and the microscopic examination has confirmed the absence of cancer A number of these patients have survived

Although these complications are more likely to occur after intensive irradiation they may follow moderate irradiation Conversely debilitated patients with advanced disease sometimes tolerate intensive irradiation and escape these complications Intensity of irradiation is, therefore not the sole factor

In this series 2 patients died as a direct result of radionecrosis The treatment of both was too intense in the light of present knowledge In 7 other fatal cases varying degrees of necrosis were present but the general condition of all the patients was so poor and the lesions were so advanced that these factors alone were sufficient to account for the deaths although the final outcome was probably precipitated by the irradiation In a small group varying degrees of radionecrosis developed, followed by healing In several laryngectomies performed for suspected recurrences examination of the larynx failed to disclose any sign of carcinoma but only necrosis of laryngeal tissues with marked secondary infection

Results—Table 1 indicates that of 98 patients with advanced disease in whom the cords were completely fixed and in many cases accompanied with metastasis to regional lymph nodes 18 are living and apparently cured more than five years

Of 58 patients with movable or partly fixed cord lesions 37 were free from disease after five years Six of the 58 died from causes other than cancer (without recurrence) less than five years after treatment If these 6 cases are counted as lost from cancer, the

TABLE 1—*Five Year Results of Radiotherapy in Relation to Extent of Carcinoma and Mobility of Laryngeal Structures**

Stage of Carcinoma	Total No of Patients		1938		1939		1940		1941		1942		1943		1944	
	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well
Cords movable or partly fixed	58	7				5	4	3	14	[illegible]	9	7	13	10	8	5
Cords fixed advanced cancer regional metastasis	98	18	10		6	1	9	[illegible]	25	5	20	5	20	2	8	
Total	156	55														

* Eight patients died from causes other than cancer (without recurrence) less than five years after treatment leaving 55 five year cures in 148 cases or 37 per cent (35 per cent if the indeterminate cases are not deducted) Of the 8 patients who died from causes other than cancer (except for 1 case of cerebral metastasis) 2 died from perforated gastric ulcer 1 one year and the other three years and five months after treatment 3 died from coronary disease 1 one year and seven months 1 three years and four months and 1 three years and eight months after treatment 1 died from cerebral hemorrhage two years after treatment 1 died from cerebral metastasis four years and four months after treatment and 1 died from alcoholism four years and nine months after treatment

Since publication of these cases in 1946 5 patients have died from causes other than cancer (without recurrence) more than five years after treatment (five and a half six six seven and seven years) and are listed as cured One died with probable recurrence four years after treatment and 1 counted as lost and 1 counted as lost in our 1946 report has been found free from cancer

One patient (H L) treated in 1942 died about five years later with probable recurrence and is counted as lost One patient (G T) treated in 1941 experienced a slight recurrence in 1948 and is well following local excision through a laryngofissure This patient is counted as cured One patient (J D) treated in 1944 underwent resection of cervical lymph nodes four years later and is free of disease He is listed as well Eleven patients are well and free of disease after combined radiotherapy and laryngectomy but are not counted as cured

TABLE 2—*Five Year Results of Radiotherapy in Relation to Operability and Surgical Indications**

Stage of Carcinoma and Surgical Indications	Total No of Patient		1938		1939		1940		1941		1942		1943		1944	
	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well	Treated	Well
Extrinsic inoperable	87	1	11	[illegible]		1	9		23		19	4	18	2	[illegible]	1
Intrinsic suitable for laryngectomy	48	25		2	4	1	1	1	11	6	6	3	10	5	13	7
Intrinsic suitable for laryngofissure	21	1	1	0	2	2	[illegible]	2	5		4	3	5	5	1	0
Total	156	[illegible]														

* See note table 1

curability is 37 of 58, or 64 per cent If these cases are classed as "indeterminate," the percentage of five year cures is 37 of 52, or 71 per cent

Table 2 shows 15 apparent cures in 87 cases of advanced, probably inoperable lesions (Three patients died of causes other than cancer, apparently free from disease, less than five years after treatment)

Of 48 patients with lesions too advanced for laryngofissure and suitable for laryngectomy, 25 are apparently cured more than five years (Four died of causes other than cancer, apparently without recurrence, less than five years after treatment) The curability in this important group is 25 of 48, or 52 per cent, if the 4 "indeterminate" cases are counted as lost from cancer and 25 of 44, or 57 per cent, if the 4 "indeterminate" cases are deducted

Of 21 patients with lesions *amenable to laryngofissure* 1 died from other causes apparently free of cancer, less than five years after treatment and 15 were well and free of disease more than five years It should be noted that of the last 6 patients treated in 1943 and the first half of 1944 5 are well and free of disease

Of the 43 patients reported on in 1946 as apparently cured, the following were included in the last communication (October 1948)[26] Five died apparently free from cancer of other causes five and a half, six, six seven and seven years respectively after treatment One died four years after treatment with probable recurrence and 1 patient who had been lost track of and counted as lost was found free from disease

Since the last report, 1 patient treated in 1942 and reported well died from metastases in 1947 The lesion was very advanced and involved the arytenoid false cord and piriform fossa Regional adenopathy developed soon after treatment and the survival of the patients for almost five years represents a good palliative result

SELECTION OF TREATMENT

In the choice between laryngectomy and radiotherapy for a given case of operable intrinsic carcinoma of the larynx, every aspect must be weighed and no set rules can be applied The following criteria have been helpful to us as a guide

General Considerations—The patient's age, general condition life expectancy, and the presence or absence of serious organic disease are to be considered

Extent of the Lesion—When the lesion is so advanced as to be inoperable and apparently incurable by radiotherapy irradiation should be designed with a view to palliation

Site of Origin—Lesions arising in the ventricle false cords or base of the epiglottis are generally more radiosensitive, whereas subglottic lesions are usually more radioresistant The radiosensitivity of lesions of the true cord depends largely on the degree of infiltration

Microscopic Structure—It is generally agreed that the more undifferentiated carcinomas have a worse surgical prognosis and some clinicians are influenced by the histologic grade of the biopsy specimen in their choice of treatment Personal experience indicates that it is hazardous to draw conclusions from the histologic structure of a biopsy specimen except in a general way Actually it is not safe on this basis, to express a dogmatic opinion that the lesion is of a high or low grade of malignancy or that it is radioresistant or radiosensitive To this general statement there are two exceptions When the microscopic structure shows marked anaplasia, especially with the formation of spindle cells, the lesion is usually highly malignant and offers an unfavorable prognosis regardless of whether surgical treatment or irradiation is used The other exception is when the epithelial cells are uniformly small and transitional in type, especially when they show a convoluted plexiform arrangement Cancers of this type are generally radiosensitive

The view that squamous carcinoma is radioresistant has become entrenched in the literature Every effort should be made to correct this fallacy, which is based on two errors One is the belief that squamous carcinoma is resistant to irradiation, the fact is that when not infiltrating it is sensitive to adequate radiotherapy The other error lies in dependence on a single biopsy specimen as giving a reliable histologic picture of the lesion, whereas there may be, and frequently are, other areas in the same tumor that are undifferentiated

Mobility of Laryngeal Structures in Relation to Radiosensitivity and Radiocurability—The gross character of the lesion influences its radiosensitivity and radiocurability Generally speaking papillary lesions are radiosensitive and infiltrating lesions relatively radioresistant Mobility of the laryngeal structures generally indicates that the lesion is early or if more advanced that it is papillary and not infiltrating From the point of view of irradiation such a lesion is radiosensitive and to a considerable degree radiocurable, the curability being directly related to the extent of involvement, the degree of malignancy, the general condition of the patient and the efficiency of the treatment

Partial or complete fixation is often due to inflammation caused by secondary infection and not to carcinomatous invasion Such fixation occurs especially after one or more biopsies It generally begins to diminish and disappears soon after irradiation is begun and in cases of doubt this response is a useful sign in interpreting the cause of the fixation Rapid increase in mobility also occurs after a small amount of irradiation when the lesion is highly radiosensitive From a practical point of view the early and rapid response is an indication of radiosensitivity and probable radiocurability

No sharp line of demarcation can be drawn between radiosensitive and radioresistant lesions The quality of radiosensitivity varies in degree, and there is no accurate method of expressing the variation This fact makes it exceedingly difficult to evaluate new methods of treatment

COMMENT

Two main problems arise in connection with treatment (1) the choice between surgical intervention and radiotherapy for early carcinoma of the true cord amenable to laryngofissure and (2) the choice between laryngectomy and radiotherapy for operable laryngeal cancer beyond the scope of laryngofissure

Regarding the first, laryngofissure is a well established procedure yielding 80 to 85 per cent cures in carefully selected cases of cancer of the vocal cord The results of radiotherapy in this group are at least as good as those of surgical intervention, with the advantage that generally the voice after radiotherapy is better (Baclesse, Ahlbom, Lederman, Lenz, Harris, Kramer and Cutler) Laryngofissure yields the best results in lesions limited to the middle or anterior two thirds of one cord with complete mobility Once the disease involves the posterior extremity of the cord, crosses the midline, extends subglottically, involves the false cord or becomes partly fixed, it is no longer suitable for laryngofissure. If the histologic structure, as indicated by the biopsy, shows a highly malignant anaplastic carcinoma (grade IV, Broders), most laryngologists prefer radiotherapy.

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[26] Cutler, M Cancer of the Larynx, Five Year Results of Radiotherapy, Radiology 51 509 520, 1948

Laryngofissure has a long record of favorable results and should not be abandoned. At the same time adequate recognition must be given to the increasing evidence that radiotherapy yields equally good results, with a better voice, and the patient should be allowed to choose the treatment he prefers. If laryngofissure is used, one should choose the case carefully, excluding lesions which are not strictly limited. Recurrences following laryngofissure do not respond as well to radiotherapy as does the original lesion, and Colledge[17] has warned against exploratory laryngofissure on the grounds that if the incision cuts through tumor tissue the best technic for the radical operation is thereby made impossible.

Between laryngectomy and radiotherapy the choice is simple when the patient's age or general condition contraindicates radical surgical procedures, when the lesion is clearly inoperable or when the patient refuses laryngectomy; otherwise the choice may be very difficult. The natural reluctance of the patient to lose his larynx merely increases the responsibility of the surgeon and the radiotherapist.

It has been stated that early cord lesions suitable for laryngofissure constitute the best target for radiotherapy and that radiotherapy is a much more efficient substitute for laryngofissure than for laryngectomy. I disagree with this view. Radiotherapy is much more important than as a substitute for laryngofissure in the group of lesions beyond the scope of laryngofissure for which laryngectomy is the only surgical alternative. Lesions unsuitable for laryngofissure by virtue of site, extent or histologic structure but still not completely fixed by carcinomatous invasion are ideally suited for radiotherapy, with a curability equal to that of laryngectomy.

In 1931 I began to treat selected patients with operable carcinoma of the true cords by irradiation. At first irradiation was tried only when the patient refused laryngectomy or when there were general contraindications to a radical operation. As the results improved, lesions of borderline operability were treated, and finally, in 1938, irradiation of operable intrinsic lesions was practiced by choice, provided the laryngeal structures were not completely fixed by carcinoma.

The present procedure is to limit laryngectomy to cases of intrinsic cancer in which there is total fixation of the laryngeal structures and in which there are no local or general contraindications to surgical treatment, provided it is established that the fixation is due to carcinomatous invasion and not to inflammation. As the results of irradiation improve, the classification of operability becomes stricter. When the cords are still movable or only partly fixed, irradiation is chosen in preference to surgical removal regardless of the histologic grade or the extent of the lesion. In borderline cases irradiation may be tried when a patient asks for a chance to be cured by this method with the understanding that laryngectomy may still be necessary. In this connection, the radiotherapeutic test may be used; if the response is favorable, the treatment is completed. When the lesion appears to be unfavorable for radiotherapy and amenable to laryngectomy the patient is urged to accept surgical treatment, but if he refuses he is given irradiation with the understanding that the chances of success are remote and that he will still probably be faced with laryngectomy. This course is justified because it is now established that previous correct irradiation does not interfere seriously with subsequent laryngectomy. It is interesting that a number of patients have been cured by this method.

The selection of treatment is highly individual and no rules can be applied. The attempt to choose the best treatment for each case is guided by the following criteria (*a*) the operability of the lesion and the presence or the absence of metastatic involvement of cervical lymph nodes, (*b*) the general condition of the patient, his life expectancy and the presence of serious organic disease, (*c*) the character of the lesion with respect to origin, extent, histogenesis, microscopic structure and, more particularly, the extent to which it has infiltrated and fixed the laryngeal structures, and (*d*) the patient's temperament and his ability to adjust himself to laryngectomy and the extent to which his work and economic status are dependent on the normal use of the voice.

In the treatment of clearly operable cancer of the larynx, the choice between laryngofissure and irradiation is *not nearly so important* as the choice between laryngectomy and irradiation.

One crucial question is to what extent, if any, are the chances for a successful operation jeopardized by radiotherapy. Much, of course, depends on the type of irradiation. With the use of smaller fields and careful attention to all the other known factors designed to reduce irradiation injury to normal tissues, the chances of complications are so reduced as to be negligible in most instances. It is becoming generally accepted that previous correct irradiation does not seriously complicate subsequent laryngectomy. This is especially true with current technics using small fields.

In 1938, Jackson and Jackson[27] stated that there are growths classed as operable for which the patient is justified in choosing irradiation in preference to operation and predicted that the future would probably witness a progressive decrease in the relative number of laryngectomies. This prediction has proved to be correct. Since this statement was made, significant progress has been achieved in the radiotherapy of laryngeal cancer, which has been reflected in the five year end results published from several clinics. In a recent review of a personal series of 93 intrinsic carcinomas of the larynx observed over a period of twenty years Negus[28] arrived at the following conclusions regarding the choice of treatment. For growths limited to the membranous vocal cord he advised laryngofissure; for unilateral cordal lesions extending onto the arytenoid cartilage or reaching the posterior commissure and without fixation he advised radiotherapy, and for lesions accompanied with chronic hypertrophic laryngitis, for extensive subglottic disease and for advanced lesions with marked fixation of the cord he advised total laryngectomy. Scott Stevenson[29] of London expressed the same opinion. He stated that when the growth is situated on one vocal cord and extends to the arytenoid or reaches the anterior commissure, but without fixation of the cord, irradiation is the method of choice because surgical treatment would entail removal of the whole larynx Thus, Negus and Scott Stevenson concur with me that lesions too advanced for laryngofissure but still not totally fixed are better treated by radiotherapy than by total laryngectomy It is interesting that this view is taken by leading laryngologists and is based on a wealth of personal surgical experience and familiarity with the results of modern radiotherapy obtained by colleagues in the field of radiology Windeyer's[30] results and conclusions parallel those of Negus

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[27] Jackson C and Jackson C L. Cancer of the Larynx J A M A. 111 1986 1993 (Nov 26) 1938

[28] Negus V E Intrinsic Cancer of the Larynx Review of a Series of Cases Proc Roy Soc Med 40 515 522 1947

[29] Stevenson R S Recent Advances in Oto-Laryngology ed 2 London J & A. Churchill Ltd 1949

SUMMARY AND CONCLUSIONS

In a series of 156 consecutive microscopically proved cases of laryngeal cancer treated by radiotherapy there were 37 per cent five year cures[31] More than half of the lesions were inoperable In 48 cases in which the lesions were too advanced for laryngofissure and for which the only surgical alternative was total laryngectomy, there were 57 per cent five year cures The inoperable group yielded 17 per cent cures

Among 58 cases in which the cords were not completely fixed there were 71 per cent cures These results lead to the following conclusions Radiotherapy is indicated in selected cases When the cords are freely movable or only partly fixed curability is high and radiotherapy is the method of choice Total laryngectomy is reserved for advanced lesions with complete fixation of the cords occurring in surgical subjects with a good life expectancy, provided the fixation is caused by the carcinoma The most important contribution of radiotherapy to laryngeal cancer relates to the group of lesions beyond the scope of laryngofissure, for which total laryngectomy is the only surgical alternative When such lesions are not yet completely fixed by carcinomatous invasion, they are ideally suited for radiotherapy, and the curability is at least equal to that of total laryngectomy

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ABSTRACT OF DISCUSSION

Dr John V Blady, Philadelphia When a cord has lost its motility, it indicates involvement and infiltration of the laryngeal musculature either by the tumor or by infection This is not a contraindication to irradiation When one or both sides of the larynx becomes fixed, then the patient is a problem more for surgery than for irradiation Irradiation may be used only if other criteria indicate it or if there are some other extenuating circumstances The fixation of the larynx means that the tumor has invaded, in all probability, bone and cartilage of the larynx, the thyroid cartilage, except in cases in which there is a large bulky tumor not permitting the side of the larynx to move Except in those cases we feel that surgery would be preferable, and the complications which Dr Cutler has referred to and which we, too, have observed in previous years occur in just this type of patient, because after the irradiation the tumor has regressed and what is left is an exposed cartilage Infection ensues, and osteoradionecrosis develops If the patient still has a chance for a cure, laryngectomy will give that chance If the patient is beyond the possibility of a cure, the laryngectomy may be considered as a palliative procedure Laryngectomy is preferable because this complication of osteoradionecrosis is not a pleasant one The morbidity that ensues lasts for months It is necessary to remove completely every piece of cartilage from the larynx sometimes, and eventually a radiologic laryngectomy has been performed, so why not do it properly the first time and avoid such a complication Dr Cutler has added to the accumulating evidence indicating the effectiveness of radiation therapy in early lesions of the intrinsic larynx The results, however, are not much better than those for laryngofissure I should like to add a word of caution In some of these cases the decision of employing irradiation should be considered, especially when it is being used for young persons Dr Cutler, too, has demonstrated that with concentration therapy one can get results just as good as those obtained by Coutard's method I think it is just another way of doing the same thing

Dr Ralph Phillips, New York I do not need any convincing that radiotherapy is the treatment of choice for cancer of the larynx, but for those who still prefer surgical treatment I should like Dr Cutler to say whether there is any selection in this consecutive series of 157 patients, that is, how many patients were seen but considered unsuitable for treatment The recent trend toward more heroic surgical intervention and, perhaps I had better whisper, more mutilating surgical procedures, has been made possible by the chemotherapeutic control of infection and by better understanding of nutritional requirements I should like Dr Cutler to tell about the preparation of his patients for radical radiotherapy, as I think one important reason for its poor results in extrinsic cancer of the larynx is that patients have to be treated mostly as outpatients I suggest that we banish the term radioresistant, for in general it either cloaks radiotherapy which was ill conceived, badly planned and poorly executed or it means that the patient did not have the benefit of that inpatient care which the patient undergoing surgical treatment gets automatically The most important fact in this paper is that in those intrinsic cancers which have spread to either end of the cord and beyond, for which only total laryngectomy can be offered, the results of radiotherapy are as good as those of this drastic procedure In "Nelson Loose-Leaf Living Surgery" radiotherapy is condemned with the statement that "every possible variation in treatment factors was used" Such a claim is either nonsense or ignorance, for only now—thanks largely to the work of Regaud, Harmer, Quick, Coutard, Cade, Baclesse and Cutler—are we beginning to have some idea of the importance of factors such as dose-time variations with field size and tumor characters, quality of radiation, total dose and over-all time Over the last thirty years, it has been the development of radiotherapy, with its promise of cure without loss of function, that has brought patients to the hospital in earlier stages of cancer The trend back to surgery in this country is due to the relegation of radiotherapy to an obscure corner of the diagnostic department or as a mere technical adjunct of the department of surgery If this trend continues, I fear that the campaign to get patients for earlier diagnosis will fail

Dr Theodore P Eberhard, Philadelphia Dr Cutler's paper is full of meat There is ample space for approbation and for criticism For the last fifteen years I have been listening to and reading papers by surgeons and radiotherapeutists on the treatment of carcinoma of the lungs The argument is just as open and the antagonisms on the two sides just as violent today as they were fifteen years ago The reason for this is that there are no criteria set up for reporting cases Everybody reports cases according to his own classification, with the result that no one seems to know what anyone else is talking about Even this afternoon we hear the term "operability," a term that nobody knows the meaning of except the man who uses it I want to put in a plea that this section undertake a standard classification procedure similar to what was done a good many years ago by the Cervix Cancer Committee, whereby surgeons and radiotherapeutists can classify the cases according to the same standards When that is done, then we can have comparative results After all, it is not enough to prove that one can do a thing One has to prove that that is the best way of doing it Then someone else with a large series can undertake the sort of exhaustive analysis that has been done for carcinoma of the breast, and I feel sure that then we will set up the same type of criteria that have been established by Hagensen and Stout and Gordan Richards for carcinoma of the breast, demonstrating conclusively what types of cases are really suitable for either surgical treatment or irradiation

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[30] Windeyer, B W Intrinsic Cancer of the Larynx Review of a Series of Cases, Proc Roy Soc Med 40 522 524, 1947

[31] If the 8 "indeterminate" cases are counted as lost from cancer, the curability is 36 per cent

Dr. Maurice Lenz, New York I believe that laryngologists are gradually accepting roentgen therapy as an equal of surgery in certain varieties of laryngeal cancer Dr Cunning who has charge of laryngologic cancer surgery at the Manhattan Eye Ear and Throat Hospital speaking at the Laryngology Section of this meeting reported the clinical arrest of early cancers of the larynx in 18 of 19 patients these patients had been treated solely by roentgen therapy Dr Kernan formerly in charge of the Laryngologic Service of the Presbyterian Hospital with whom I was associated in the follow up clinic at the Presbyterian Hospital for sixteen years preferred roentgen therapy to laryngofissure in these cases Good results however cannot be expected unless the positioning of the patient is accurate and the treatment is conducted by an experienced radiotherapeutist Haphazard treatment by a hurried novice is likely to result in failure even if the written record of the therapy appears satisfactory Roentgen therapy of curable laryngeal cancer should not be entrusted to the independent judgment of inexperienced radiologic interns or residents and never be assigned routinely to an x-ray technician Dr Cutler is to be congratulated on the excellency of his results

Dr. Max Cutler, Chicago I agree with Dr Blady that the term 'operability' has to be used with caution By an operable lesion I mean one in which there is a reasonable probability that all the cancerous tissue can be removed Dr Phillips asked whether there has been a selection of cases There has been selection in that a number of patients were treated surgically however there has been no selection in that the 157 cases reported are consecutive and represent all the patients treated by radiotherapy during the specified period Regarding the preparation of patients treated by irradiation we believe that patients suffering from early laryngeal cancer require little or no preparation Patients with advanced lesions receive the usual supportive measures The antibiotics have been used freely in combating secondary infection Regarding the comparative value of concentration radiotherapy I am of the opinion that it has a special value in cases of more radio resistant lesions I was glad to hear Dr Lenz say that the surgeons are developing more confidence in the radiotherapy of laryngeal cancer I find this especially true in England where for many years there has been a close and friendly working relationship between the otolaryngologists and the radiotherapeutists Two recent publications by leading surgeons from London agree with the essential conclusion drawn by the writer namely, that cancer of the larynx too advanced for laryngofissure for which the only surgical alternative is total laryngectomy is best treated by radiotherapy provided the cords are not completely fixed

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Probably 3½ Minutes is the Time Limit —We still average 2 cases of cardiac arrest each year The total now is 15 All hearts have been revived Seven patients survived the complication and 1 patient appeared to recover but died on the second postoperative day of a coronary occlusion Our survival rate at present is 46 per cent Cardiac arrest is an uncommon complication of a surgical operation It is, however a recognizable one but requires acute awareness at all times by surgeon and anesthetist The heart can be started again in practically all cases that are true cardiac arrests but probably 3½ minutes is the time limit available to restore heart action and restorations beyond that time limit leave patients with irreparable cerebral damage Only organized teamwork planned procedures and readily available instruments and drugs make it possible to accomplish what must be done in 3½ minutes to retain the patient s mentality These cases will continue to occur We must look on every patient who does have cardiac arrest as one who can literally and dramatically have his or her life saved if we can drill and train our operating room staffs and ourselves to do it —Frank H Lahey and Edwin R Ruzicka Experiences with Cardiac Arrest *Surgery Gynecology and Obstetrics* January 1950

THYMECTOMY IN THE TREATMENT OF MYASTHENIA GRAVIS

Results in Seventy Two Cases Compared with One Hundred and Forty Two Control Cases

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and
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In 1941 stimulated by the reports of Blalock Mason Morgan and Riven[1] and of Campbell, Fradkin and Lipetz[2] we undertook a study to appraise the value of thymectomy in the treatment of myasthenia gravis Although we discussed this work in previous publications,[3] we refrained from drawing conclusions as to the value of thymectomy believing that our cases were too few in number and that the period of observation was not of sufficient duration At present we believe these objections no longer exist and we wish to report our results as briefly as clarity permits Greater details of this study appear in a report by Eaton Clagett Good and McDonald[3b] based on 32 cases of myasthenia gravis which appeared in May 1949

Table 1—*Myasthenia Gravis General Survey of Cases*

	Cases				
	Operative		Nonoperative or Control		
Year	Tumor	No Tumor	Tumor	No Tumor	Total
1941	1	0	1	2	4
1942		0	1	35	37
1943	6	1		31	41
1944	4	8	2	21	35
1945	0	8	3	9	20
1946	[illegible]	16	2	10	42
1947	5	17	1	15	38
Total	25	50	13	129	217
	7		142		217

Follow up data are not available in 3 cases 1 in which a tumor was present and 2 in which no tumor was found In tables 2 to 8 these 3 cases have been excluded

Remissions in myasthenia gravis may occur with or without thymectomy Therefore improvement that follows thymectomy is not necessarily due to removal of the thymus Consequently the value of thymectomy in the treatment of myasthenia gravis may be determined best by comparing the course of the disease in a large group of patients treated surgically with the course of the disease in a large group treated nonsurgically

Since the beginning of our study in 1941 more than 300 patients with myasthenia gravis have been studied, of these 86 underwent surgical treatment in an effort to remove the thymus a thymic tumor or both In this report we are including data on only those patients

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From the Mayo Clinic Section on Neurology and Psychiatry (Dr Eaton) and Division of Surgery (Dr Clagett)

[1] Blalock A Mason M F Morgan H J and Riven S S Myasthenia Gravis and Tumors of Thymic Region Report of a Case in Which Tumor Was Removed Ann Surg **110** 544 560 (Oct) 1939

[2] Campbell E Fradkin N and Lipetz B Myasthenia Gravis Treated by Removal of Thymic Tumor Report of Two Cases Tr Am Neurol A pp 14 15 1941

[3] (*a*) Eaton L M Myasthenia Gravis Its Treatment and Relation to the Thymus Proc Staff Meet Mayo Clin **17** 81 87 (Feb 11) 1942 Clagett O T and Eaton, L M Thymic Tumors in Myasthenia Gravis S Clin North America **23** 1076-1082 (Aug) 1943 Surgical Treatment of Myasthenia Gravis J Thoracic Surg **16** 62-80 (Feb) 1947 (*b*) Eaton L M Clagett O T Good C A, and McDonald J R Thymectomy in Treatment of Myasthenia Gravis Report Based on Thirty Two Cases Arch [illegible] & Psyc [illegible] **61** [illegible] (May)

who were examined or operated on prior to Jan 1, 1948, and on whom satisfactory follow-up data were available The groups thus limited are comprised of 72 surgical and 142 nonsurgical patients However, 75 patients underwent operation during the period under consideration Data on all 75 surgical patients are given in table 1 and in figures 1 and 2 and wherever reference to follow-up data is not necessary

TABLE 2—*Results of Removal of Tumors in 24 Cases**

		Condition of Patient					
					Improved		
Year	Total	Patient Died	Worse	Essentially Unchanged	Moderate	Considerable	Complete Remission
1941	1					1	
1942	3			2		1	
1943	6	5†				1	
1944	4			1		2	1
1945	0						
1946	5	3††		1	1		
1947	5	1	1	1	1	1	
Total	24	9†††	1	5	2	6	1
Percentage	100 0	37 5	4 2	20 8	8 3	25 0	4 2

* Condition of 1 additional patient unknown
† Each represents 1 surgical death

A general survey of the cases is given in table 1 The results of this study are presented in tables 2, 3 and 4 and summarized in table 5 The condition of the patient listed in tables 2 to 8 refers to the condition in January 1949, as compared with the condition at the time the patient became part of this study, one to eight years earlier It is a comparison of the condition of the patient at the time of his first visit, or, in the surgical cases, at the time of operation, while the patient was on the best medical regimen possible, with the condition of the patient in January 1949 It is not a comparison of the condition of the patient before and after the administration of neostigmine

TABLE 3—*Results of Surgical Treatment in 48 Cases* in Which No Tumor Was Found*

		Condition of Patient					
					Improved		
Year	Total	Patient Died	Worse	Essentially Unchanged	Moderate	Considerable	Complete Remission
1941	0						
1942	0						
1943	1					1	
1944	8	2†		1	3	2	
1945	7	1		2	4		
1946	15	2††		4	3	4	2
1947	17		1	8	3	3	2
Total	48	5†††	1	15	13	10	4
Percentage	100 0	10 4	2 1	31 2	27 1	20 8	8 3

* Condition of 2 additional patients unknown
† Each represents 1 surgical death

First, for the unselected cases it was found that the percentage of patients in the surgical group who had complete remissions was approximately equal to that in the control group, but the percentage of patients in the surgical group who were considerably and moderately improved was twice as high as that in the control group (table 5)

Careful study of the two groups of unselected cases as to age, sex, duration (figs 1 and 2) of the disease and duration of treatment with neostigmine disclosed few differences which might influence the results Differences in severity are not shown in these figures and might have a significant influence on results For instance, some patients were too ill or too old for major surgical procedures to be recommended The fact that patients of this type often died within a short time may have accounted for the higher percentage of deaths among the nonsurgical patients On the other hand, the inclusion of many cases of mild myasthenia gravis in the control group may have tended to balance the effect, from a statistical standpoint, of the group of patients that were severely ill

The inclusion, among the controls, of one particular type of patient may have produced misleading statistical results, that is, the type of patient who has had myasthenia gravis for a long time and who with good medical management lives relatively normally, the course of his disease being singularly free of variations in intensity This type of patient was seldom interested in radical treatment and consequently is found in greater numbers among the controls Furthermore, his condition tended to remain unchanged during the follow-up period of observation For this reason the percentage of patients whose condition was classified as essentially unchanged may have been greater in the control group than in the surgical groups, and as a consequence the percentage of those in the control group showing considerable improvement may have been lower than that in the surgical group

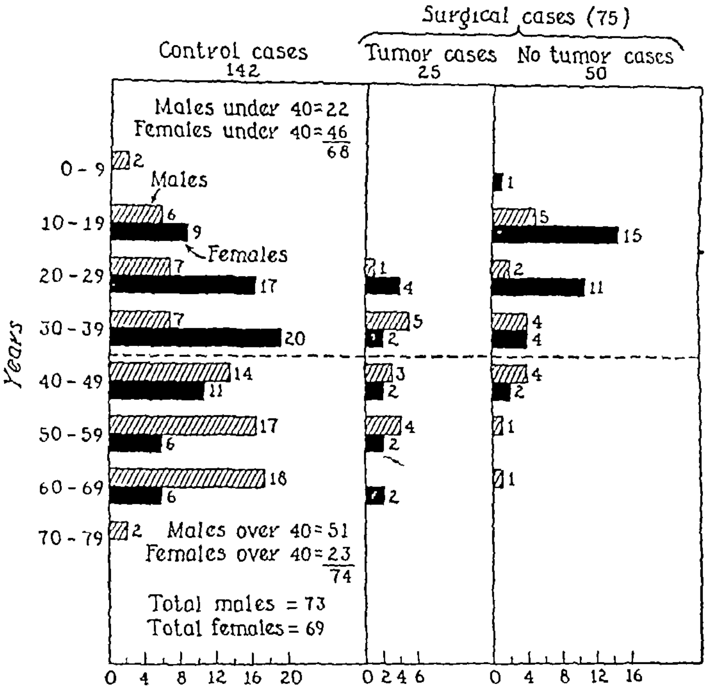

Fig 1 —Age at onset of myasthenia gravis

In any event, because of these possible pitfalls, it seemed wise to select another group of controls (table 6) This was done The selection depended on similarity of age and of the duration, severity and progress of the myasthenic symptoms to those of the patients in the surgical group Actually, in the majority of instances, the patients in the selected control group had been given the opportunity of having thymectomy performed and had declined it

In order that the comparison of the selected control group with the surgical group might be as fair as possible to the surgical group it seemed advisable to establish a new surgical group. Thus a surgical group of 62 cases was selected (table 7) by excluding, from the surgical group of 72 patients, 6 patients who failed to survive surgical treatment long enough for the effect of the thymectomy to be determined, 3 patients on whom removal of a specimen for biopsy was the only surgical procedure and 1 patient on whom only an insignificant amount of thymic tissue could be found at operation. In short, in the selected surgical group are included only those patients who should have improved if thymectomy is of therapeutic importance.

A comparison of the results in the 62 selected surgical cases with those in the 56 selected control cases (tables 6 and 7) indicates that provided the operation is successful the chance of a truly gratifying surgical result is 35.5 per cent as against a 28.5 per cent chance that a similar result will occur without operation. The percentage difference is not statistically significant in groups of cases of this size.

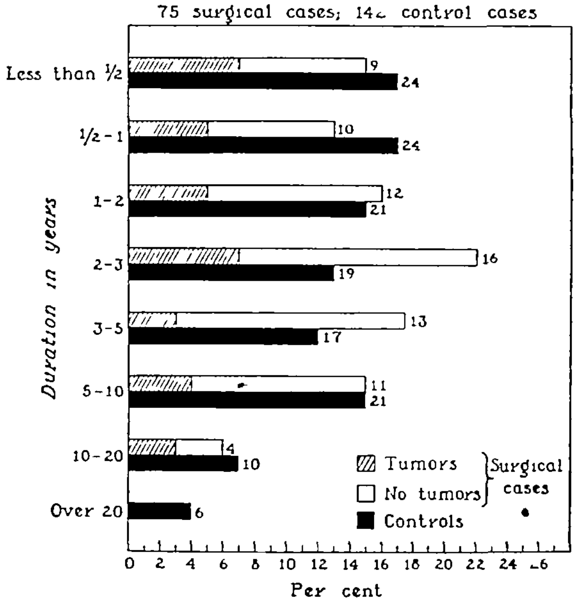

Fig 2 —Duration of myasthenia gravis at operation or first visit.

Thus, we and our colleagues have been forced to the conclusion that there is in this study no indication that thymectomy influences beneficially the course of myasthenia gravis. This opinion is reached in spite of the fact that in several cases recovery following thymectomy has been dramatic. If operation for removal of the thymus had been performed in certain of our control cases, the results would have seemed equally spectacular.

This conclusion leaves us less puzzled than we were at one time by the lack of correlation between the amount of thymic tissue removed and the results or by the fact that a comparison of 20 cases in which the surgical results were apparently highly successful with 20 cases in which surgical treatment completely failed (table 8) did not show any significant difference in the two groups which might aid in proper selection of patients for thymectomy.

We believe particular attention should be called to the fact that we found no remarkable degree of correlation between the result of operation and duration of administration of neostigmine before operation. The period of preoperative administration of neostigmine for the 20 surgical patients who had the best results averaged six months as compared with fourteen months for the 20 surgical patients who had the worst results.

Let us be more specific. One of the best results occurred in a patient who had received a great deal of neostigmine preoperatively.

Table 4.—*Control Group: Results in 142 Cases of Myasthenia Gravis*

		Condition of Patient					
					Improved		
Year	Total	Patient Died	Worse	Essentially Unchanged	Moderate	Considerable	Complete Remission
1941	3	2	0	1	0	0	0
1942	33	4	0	19	5	2	3
1943	34	10	3	12	1	4	4
1944	23	8	1	8	3	1	2
1945	12	2	3	3	2	1	1
1946	21	4	1	9	3		1
1947	16	2	1	9	1	3	0
Total	142	32	9	61	15	14	11
Percentage	100.0	22.5	6.3	43.0	10.6	9.9	7.7

This patient, a woman, was 21 years of age at the time of operation on June 22, 1946 and at that time had had myasthenia gravis for almost four years. The myasthenic symptoms had increased gradually in severity without the occurrence of any well defined remission. The administration of neostigmine had been begun seventeen months before operation. During the months preceding surgery the patient had taken each day an average of twenty-eight to thirty tablets of neostigmine bromide, each containing 15 mg. By taking this amount the patient was able to accomplish approximately three fourths the normal amount of college work and was forced largely to forego social activities. On one occasion she had taken forty tablets (600 mg.) within one period of six hours.

After removal of the thymus the patient rested for three months before accepting a position as a teacher. By the end of five months she was able to discontinue all medication, work vigorously and carry on normally strenuous social activities. Although the patient considered herself to be entirely recovered, latent myasthenia gravis was found to be present on reexamination; this was indicated by increased sensitivity on intravenous injection of curare. This patient underwent a satisfactory remission in spite of having received considerable neostigmine preoperatively.

Table 5.—*Myasthenia Gravis: Comparison of Results After Thymectomy and Medical Treatment*

	Results, Percentage			
	Unselected Cases		Selected Cases	
Condition of Patient	Surgical (72*)	Control (142)	Surgical (62)	Control (56)
Patient died	19.4†	22.5	8.1	5.4
Worse	2.8	6.3	3.2	12.5
Essentially unchanged	27.8	43.0	29.0	39.2
Moderately improved	20.8	10.6	24.2	14.3
Considerably improved	22.2	9.9	27.4	10.7
Complete remission	6.9	7.7	8.1	17.8

* The 3 surgical patients whose condition could not be ascertained in January 1949 have been excluded.

† Only 6 of the deaths (8.3 per cent) were the results of surgical treatment.

One of the poorest results occurred in a patient who had not taken a significant amount of neostigmine before operation.

with which ill health is associated in contrast with the buoyancy and euphoria of the physically fit person[7] Few would deny that psychogenic factors frequently occupy a dominant position in the perpetuation of ill health However, pain and discomfort may be the prepotent cause of the secondarily disabling dysphoria Many of the procedures of classic physical medicine alleviate these symptoms In addition, the will to resume normal activity is greatly enhanced by forms of therapy which reduce muscle spasm, mobilize joints, extend the limits of work capacity and stimulate interest Physical activity of sufficient severity to elicit the adaptive responses which lead to improved fitness not only is restorative but gives rise to an increasing sense of well-being, which is in itself one of the most potent devices for the prevention of chronic invalidism Once the will to recover has been aroused, it is comparatively easy to inure the cooperative patient to the discomforts associated with the degrees of physical effort known to be essential if functional capacity is to be extended It is a fundamental physiologic principle that organ systems pushed to levels of activity beyond those which can be met easily are the ones which respond by increased ability to discharge their specific functions[8] One of the distinguishing features of modern rehabilitation is its emphasis on systematic progression through increasing degrees of stress until optimal functional capacity has been attained The dynamogenic effect of such goal setting has been demonstrated especially well in the rehabilitation of severely disabled persons

Much evidence has accumulated to indicate that severe injury or disease, especially that involving the skeletal system, brings on wastage of protein which cannot be wholly prevented by dietary means or the parenteral administration of hydrolysates[9] When finally reversed at some as yet undetermined point in convalescence, full restoration of nitrogen lost is attained only after the lapse of considerable time in spite of high protein feeding How much abnormal protein catabolism contributes to the debility following severe trauma has not been determined It would seem that full rehabilitation is impossible as long as tissue lost in the catabolic phase of invalidism cannot be replaced adequately by synthesis of new protein Cuthbertson[10] found that massage and passive movement had an immediately salutary effect on the negative nitrogen balance This may explain why restoration of function appears to be hastened by bed exercise programs which maintain physical fitness in the interval between necessary immobilization and the resumption of generalized activity The whole problem of realimentation and repletion of protein, and its relation to physical rehabilitation, is a fundamental one which has received much less attention than it deserves Recent evidence indicates that exercise coupled with high protein feeding may play a crucial role in the general physical restoration on which rehabilitation depends and without which total rehabilitation is impossible

The key to normal tissue metabolism during and following recovery from disease or injury may be circulatory It is highly probable that a large share of the total benefit of bed exercise programs and early ambulation is due to their influence on cardiovascular and respiratory function Cardiac muscle behaves like skeletal muscle when subjected to increased load, contractile power and cardiac reserve are augmented Conversely, prolonged inactivity induces opposite changes which secondarily affect the response of the convalescent person to exercise[11] Palpitation, tachycardia dyspnea and vertigo are among the commonest discomforts of chronic invalidism These symptoms are attributable in part to the decreased blood volume low venous pressure and impaired vasomotor function associated with bed rest[12] Indeed, the tendency toward the development of gravity shock or orthostatic circulatory insufficiency is one of the transitory complications of early rehabilitation[13] Simonson and Enzer[14] have also pointed out that circulatory collapse is most liable to occur in the convalescent person after exercise when cessation of muscular contraction reduces venous return but the capillary bed within the muscles and skin is still dilated The demand placed on the circulatory system immediately after exercise may be more critical than that elicited by physical activity

The integrated action of the machinery of the living body is insured by the automatic operation of multiple coordinating mechanisms Recent work indicates that the proprioceptive impulses emanating from the muscles, tendons and joints utilized in dynamic rehabilitation play a greater role in integrating the cardiovascular-respiratory responses to exercise than was previously appreciated[15] Since passive mobilization and electrical stimulation of muscle elicit the same reflexes, these physical medicine procedures can be utilized to augment heart rate, circulation time and pulmonary minute volume before ambulation and volitional activity are possible Recent work also indicates that the rise in body temperature which accompanies muscular contraction is a useful, adaptive response to exercise rather than a manifestation of imbalance between heat production and heat loss Indeed Asmussen and his associates[16] have shown that preheating with high frequency currents or hydrotherapy augments the functional capacity of skeletal muscle in man This should be remembered whenever the restoration of strength is a major objective of the rehabilitation program

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Deciding when measures aimed at preventing chronic invalidism can be introduced with safety and the speed with which the stress imposed by activity can be augmented are key questions as yet answerable only in terms of clinical judgment Deconditioning, chronic invalidism and reconditioning are all variants of that poorly defined and illusive quality known as physical fitness A truly scientific attack on many problems of chronic invalidism and its prevention is linked inextricably with the development of objective methods of disability evaluation, of which only performance testing has received much attention Until quantitative disability evaluation is a part of the routine physical assessment of the sick and disabled, specificity in the planning of rehabilitation programs is impossible and the efficacy of various forms of treatment cannot be determined There is reason to believe that a judicious use of the classic procedures of physical medicine in combination with the newer technics of rehabilitation can accomplish more than either alone in the prevention and cure of chronic invalidism

ABSTRACT OF DISCUSSION

Question What does the spa have for the treatment of chronic invalidism?

Dr F A Hellebrandt, Richmond Va The spa is really no more or less than a rehabilitation center Attention in rehabilitation at present seems to be focused largely on the restoration of the orthopedically disabled person. The spa is ideal in many respects for the rehabilitation of the patient with chronic medical conditions The unique feature of the spa is the advantage of life in a healthful environment and the advantages of the so-called spa regimen such as the ability to *retreat under medical supervision where one has freedom from* stress, opportunities for rest relaxation dietary control restorative diversional activities and graded outdoor exercise.

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Patents, Commissions, Rebates and Secret Remedies—An ethical physician will not receive remuneration from patents on or the sale of surgical instruments, appliances and medicines nor profit from a copyright on methods or procedures The receipt of remuneration from patents or copyrights tempts the owners thereof to retard or inhibit research or to restrict the benefits derivable therefrom to patients the public or the medical profession The acceptance of rebates on prescriptions or appliances, or of commissions from attendants who aid in the care of patients is unethical An ethical physician does not engage in barter or trade in the appliances devices or remedies prescribed for patients, but limits the sources of his professional income to professional services rendered the patient. He should receive his remuneration for professional services rendered only in the amount of his fee specifically announced to his patient at the time the service is rendered or in the form of a subsequent statement, and he should not accept additional compensation secretly or openly, directly or indirectly, from any other source.

The prescription or dispensing by a physician of secret medicines or other secret remedial agents, of which he does not know the composition, or the manufacture or promotion of their use is unethical—*Section 6, Chapter I of the* Principles of Medical Ethics of the American Medical Association.

ANTIHISTAMINIC DRUGS

Comparative Activity in Man as Measured by Histamine Iontophoresis

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and
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Since 1933 a number of drugs capable of preventing histamine reactions in animals have been reported The first of these, 929F (2-thymoloxytriethylamine), was found by Fourneau and Bovet[1] to be capable of inhibiting or counteracting the action of histamine in guinea pigs In 1937 Staub and Bovet[2] confirmed these observations In 1939 Staub[3] reported a compound with an ethylenediamine radical, 1571F (N,N,N'-triethylethylenediamine), with similar qualities These drugs, while exhibiting a decided antihistaminic effect were toxic and could not be studied in man In 1942 Halpern[4] investigated a large number of antihistaminic drugs and found one 2339 R P, which could be used in man This drug, N-phenyl-N-benzyl-N',N'-dimethylethylene diamine, was introduced in France for clinical use under the trade name 'antergan" In 1944 a less toxic antihistaminic drug, pyranisamine maleate, known as 2786 R P (neo-antergan®), was reported by Bovet, Horclois and Walthert[5] In 1945 two other antihistaminic drugs were introduced in this country, tripelennamine (pyribenzamine®) hydrochloride by Mayer, Huttrer and Scholz[6] and diphenhydramine (benadryl®) hydrochloride by Loew, Kaiser and Moore[7] Since 1945, a large number of so-called antihistaminic drugs have been marketed commercially All these drugs have been given distinctive trade names, and their introduction has been accompanied by animal and human experimental data suggesting that each is preferable to the others At the time of writing, thirteen such preparations are being "detailed," and there are undoubtedly more to come

Since the physician must choose which particular antihistaminic drug or drugs he will employ, methods for comparing their effectiveness assume considerable importance Laboratory studies in animals which determine the amount of protection against intracardially injected histamine and histamine-induced

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From the Division of Dermatology Department of Medicine University of California at Los Angeles and the Wadsworth General Hospital Veterans Administration Center Los Angeles

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ephedrine hydrochloride and pentobarbital sodium[15] Thenylene® and histadyl® are trade names for methapyrilene hydrochloride Both brands were tested Chloroprophenpyridamine (chlor-trimeton) maleate, a new antihistaminic agent not yet commercially available at the time of writing, has been tested in 10 subjects This drug had practically no effect on the histamine threshold after the oral administration of the recommended dose of 2 mg Figure 2 shows the comparative antihistaminic activity of the various drugs in a more graphic form

In the course of testing, it was noted that different subjects varied widely in their response to the same drug In order to demonstrate this variation, the 30 subjects tested with the three most active antihistaminic drugs, diphenhydramine hydrochloride, tripelennamine hydrochloride and pyranisamine maleate were grouped according to the amount of histamine base "blocked" Figure 3 shows these findings The average amount of histamine base "blocked" for the group as a whole was 0 70 micrograms (table 2) However, the range of activity extended from almost no antihistaminic effect to a maximum of 1 89 micrograms The largest group consisted of the twelve subjects with levels of 0 30 to 0 59 micrograms

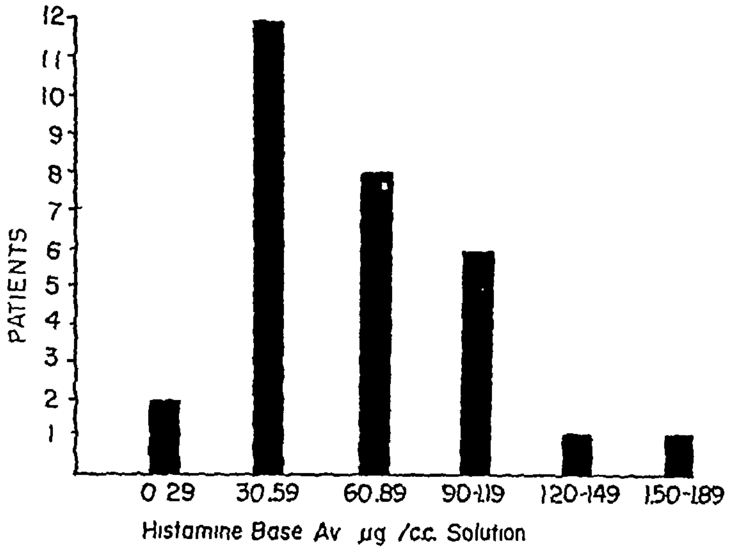

Fig 3—Variation in individual responses to antihistaminic drugs

COMMENT

Experience with histamine electrophoresis as previously described has convinced us that it is a reliable and accurate method of determining in man the relative antihistaminic activity of various drugs The method is not actually quantitative since it does not measure the amount of histamine penetrating the skin However, as shown in table 1 and figure 2, it does measure degrees of antihistaminic activity in a clearcut manner Thus tripelennamine hydrochloride, pyranisamine maleate and diphenhydramine hydrochloride were definitely superior to the other drugs in altering the histamine whealing threshold This is an interesting observation, since these three drugs were the first of the so-called antihistaminic drugs introduced commercially

It was shown in figure 3 that different persons vary widely in their response to the same antihistaminic drugs These data correlate closely with clinical experience For example, most patients with urticaria respond well to treatment However, it is not uncommon in this syndrome to encounter partial or complete failures despite adequate antihistamine therapy From the data in figure 3, it might be predicted that 12 of the 30 subjects would show a mediocre response to treatment, and that 2 would show none at all Evidence supporting this supposition has been presented by Perry and LeVan[16] They showed that antihistaminic compounds found to be low in degree of activity, as measured by this method of electrophoresis, are less satisfactory clinically

Why the antihistaminic drugs are not effective in some persons is not understood One possible explanation is a lack of absorption from the gastrointestinal tract However, in other, unreported, data, we have studied 8 patients in whom the histamine whealing threshold was unaltered after oral administration of a number of antihistaminic drugs These same subjects also demonstrated no change after the intravenous administration of tripelennamine hydrochloride, indicating that lack of response is not due to faulty absorption This is a fundamental problem in antihistamine therapy which needs further study and clarification

In carrying out this study a number of subjects were retested over a period of several months This raised the possibility that individual persons might show some evidence of histamine desensitization However, an evaluation of the results in the group subjected to repeated testing failed to support this possibility Their average initial histamine threshold when first tested was 0 28 micrograms of histamine base per cubic centimeter as compared with an average initial threshold of 0 31 micrograms in the final test, an insignificant change

We wish to point out that the antihistaminic compounds have many other actions, such as antiacetylcholinic, local anesthetic sympathomimetic or sympatholytic Antispasmodic and quinidine-like properties have also been shown by some of these drugs Therefore, those compounds which showed less activity so far as actual antihistaminic effects are concerned may well be superior in other actions

SUMMARY

1 With the utilization of histamine electrophoresis, the commercially available antihistaminic drugs have been evaluated

2 The method used consists of iontophoresis of serial dilutions of histamine base The initial threshold is determined by the highest dilution of histamine base producing diffuse punctate whealing at the site of the positive electrode The drug to be tested is then administered orally and the threshold again determined one and two hours later The difference between the initial and subsequent readings is the measure of the antihistaminic activity of the test drug

3 The results show tripelennamine (pyribenzamine®) hydrochloride, diphendramine (benadryl®) hydrochloride and pyranisamine (neo-antergan®) maleate to be the most active antihistaminic drugs, as determined by this method The other antihistaminic drugs, in decreasing order of activity, are phenindamine (thephorin®) tartrate, diatrin® (N,N-dimethyl-N'-phenyl-N'-[2-thienylmethyl]-ethylene-diamine monohydrochloride), prophenpyridamine (trimeton®), doxylamine (decapryn®) succinate, chlorothen (tagathen®)

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[15] Each tablet of this proprietary drug contains 50 mg of methapyrilene hydrochloride, 16 mg of ephedrine hydrochloride and 16 mg of pentobarbital sodium

[16] Perry, D J, and LeVan, P Laboratory and Clinical Comparison of the "Antihistaminic" Effect of Hydryllin and Four Experimental Compounds to be published

citrate, methapyrilene (thenylene® and histadyl®) hydrochloride, thonzylamine (neohetramine®) hydrochloride and antazoline (antistin®) hydrochloride

4 The data also demonstrate a variation in activity in different persons receiving the same antihistaminic drug These data correlate closely with the clinical experience

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ABSTRACT OF DISCUSSION

Dr. D M Pillsbury Philadelphia This test furnishes a convenient means of determining the neutralizing effect of various compounds on histamine introduced into the skin by iontophoresis, and it is a reasonably good screening method in man for such compounds As Dr Sternberg pointed out, there is reasonable correlation between the results of these tests and the clinical effectiveness of the compounds Certainly those compounds showing little or no antihistaminic effect, as determined by this method are clinically not good The ones showing the most effect are generally accepted as being useful, provided of course they do not have side effects which this method will not demonstrate Hearin and Mori have done a somewhat similar study, using exactly the same method Dr Sternberg and his co workers studied thirteen compounds, of some of which I had never heard, and the names of which I do not propose to try to remember My associates and I have studied five compounds in regard to the differences in the effect produced by various doses on histamine introduced into the skin These doses were 12 5 25, 50 75 100 150 and 200 mg These studies have been carried out in some two hundred and thirty different experiments on human subjects The quantitative results compare extremely well with those given by Dr Sternberg In his report the dose of 50 mg was used in most of the compounds as the dose of preference In the case of hydryllin diphenhydramine (benadryl®) hydrochloride and tripelennamine (pyribenzamine®) hydrochloride a satisfactory level of antihistaminic activity seems to be produced by 50 mg The effect is not increased by raising the dose. We have noted a similar difference in the effect of the same drug on different patients Shelley and Goldstone have studied the histamine-neutralizing effects of these compounds when they are introduced into the skin by iontophoresis and similar results to what has been described here have been shown I think as Dr Sternberg has pointed out that physicians must look for compounds with effects other than antihistaminic to try to determine other noxious substances released in the skin which might produce these lesions that are seen and they must look for other effects such as local anesthetic actions Dr Sternberg has pointed out the confusing number of compounds which are now available I hope that no more are introduced unless they are clearly shown to have a great margin of superiority

Dr T H Sternberg Los Angeles I agree that the fundamental problem involved now is not so much the production of a large series of drugs but the determination of why a sizable proportion of patients fail to show the expected clinical response even after administration of the most effective antihistaminic agents Haley and Harris (Haley T J, and Harris D H The Effect of Topically Applied Antihistaminic Drugs on the Mammalian Capillary Bed J Pharmacol & Exper Therap 95 293 [March] 1949) exteriorized the mesoappendix of Wistar strain rats for perfusion and microscopic observation By studying the effects of various antihistaminic drugs, acetylcholine and histamine they found that acetylcholine and histamine produced vasodilatation in the capillary bed and that the antihistaminic drugs acted by producing a vasoconstriction of the capillary bed through an effect on the precapillary sphincters They feel that antihistaminic drugs act through vasoconstriction and compete with the action of histamine and acetylcholine Thus they do not neutralize or antagonize but are competing for the same site of action

TREATMENT OF ACUTE NONSPECIFIC PERICARDITIS WITH AUREOMYCIN

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The clinical features of acute nonspecific pericarditis an inflammatory condition of the pericardium, have been described by Burchell,[1] Logue and Wendkos,[2] Talmadge,[3] Wolff[4] and Barnes and Burchell[5] Briefly the condition is usually preceded by an upper respiratory infection or sore throat, but there are no evidences of active rheumatic infection in the joints or heart Similarly, other causes for pericarditis such as tuberculosis, myocardial infarction and uremia, are absent

The onset is generally abrupt with fever, malaise and substernal or precordial pain which is worse on deep breathing, movement of the trunk or swallowing Partial relief of pain is attained by assumption of the sitting posture or by leaning forward A pericardial friction rub is heard early and the classic electrocardiographic patterns of acute diffuse pericarditis appear in most instances Pericardial effusion may develop and may require paracentesis, but no permanent cardiac damage or harmful sequelae have been reported

Treatment has been limited to bed rest and relief of symptoms until this relatively benign disease had run its course, usually a matter of two to four weeks occasionally longer Sulfonamide drugs, streptomycin and penicillin have proved ineffective in the treatment of this condition and have been discarded

The possibility that acute nonspecific pericarditis might be caused by a virus and the favorable effects obtained with aureomycin in so-called atypical pneumonia, which is believed to be a virus disease (Kneeland, Rose and Gibson,[6] Schoenbach and Bryer,[7] Finland, Collins and Wells[8]) suggested the possibility that this antibiotic might prove beneficial Aureomycin was accordingly administered to 2 patients in whom bed rest, other antibiotics and other therapeutic measures failed to provide relief and in a third patient early in the course of pericarditis The beneficial effects were so prompt and striking that we deemed it worth while to report our results in order that other observers might evaluate the merits of this method of treatment

REPORT OF CASES

Case 1—S L a man aged 52, was admitted to the Michael Reese Hospital Jan 12 1949 He had been treated in 1937 for a heart ailment associated with chest pain but he did not know the nature of the illness Two days before the present admission there developed an incessant nonproductive cough and severe pain in the upper and anterior portion of the left side of his chest The pain radiated down the left arm and was aggravated by coughing or deep breathing There was impaired resonance and a few rales were found at the base of the left lung posteriorly Fever was moderate (ranging up to 100 F) and

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From the Department of Medicine and of Cardiovascular Research Michael Reese Hospital

[1] Burchell H B Mod Concepts Cardiovas Dis **16** [n p] (March) 1947

[2] Logue R B and Wendkos M H Am Heart J **36** 587 (Oct) 1948

[3] Talmadge W G Am Heart J **29** 623 (May) 1945

[4] Wolff L New England J Med **230** 422 (April 6) 1944

[5] Barnes A R and Burchell H B Am Heart J **23** 247 (Feb) 1942

[6] Kneeland Y Rose H M and Gibson C D Am J Med 41 (Jan) 1949

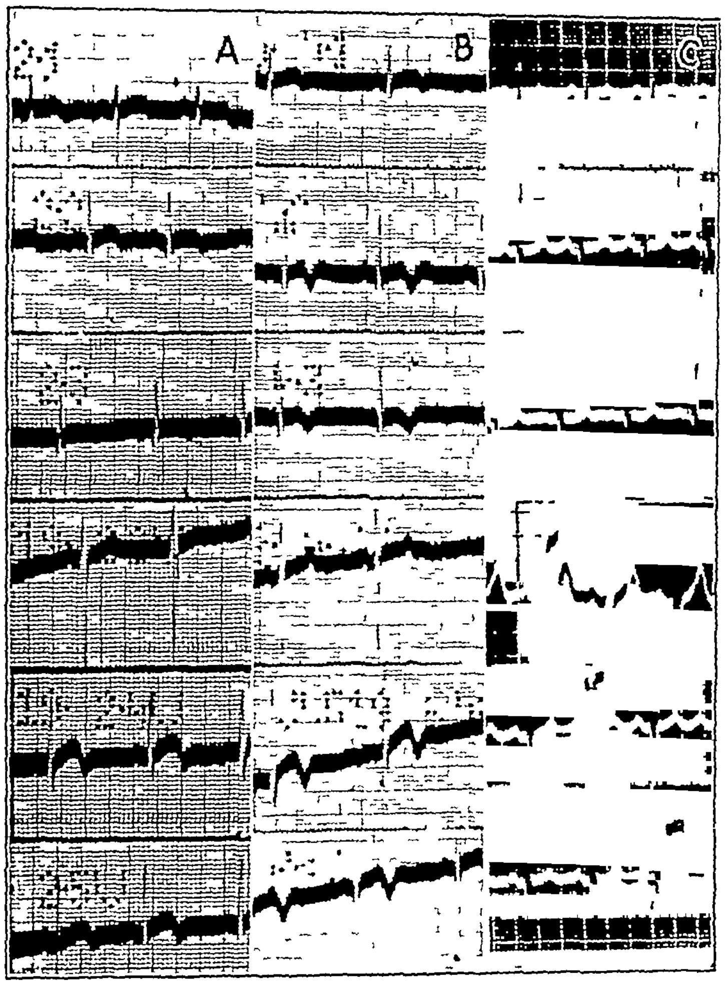
[7] Schoenbach E B and Bryer M S Atypical Nonbacterial Pneumonia with 275 (Jan 29) 1949

[8] Finland M Collins H Med **240** 241 (Feb 17) 1949

a loud pericardial friction rub was heard over the entire precordium. Venous pressure was 19 cm. of water and circulation time was 19 seconds. The electrocardiogram showed the typical pattern of acute diffuse pericarditis, and roentgenologic examination of the chest revealed pronounced enlargement of the cardiac shadow with globular configuration suggesting pericardial effusion. Pericardial paracentesis was performed four times, and 50 to 100 cc. of turbid, amber-colored fluid was obtained each time. This fluid contained some white and red corpuscles but remained sterile on culture and guinea pig inoculation.

The white blood cell count was 21,400 with 79 per cent polymorphonuclear cells, and the sedimentation rate (Wintrobe) was 36 mm. in one hour. Three successive blood cultures remained sterile, and various agglutination tests, including those for several types of virus infection, were negative.

Despite treatment with bed rest, symptomatic therapy, sulfonamide drugs, penicillin and streptomycin, the patient grew progressively worse. The cough, pain, cyanosis and dyspnea became more pronounced, and the temperature rose to 104 F. All medicinal treatment was stopped at this point, and 1 Gm. of aureomycin was administered orally every six hours for four days and 0.5 Gm. every six hours for the next three days.



Serial electrocardiograms in case 3. *A*, July 6, three days after the onset of symptoms and two days after aureomycin therapy was started. *B*, July 12, five days after all systemic manifestations had disappeared and one day after aureomycin was discontinued. *B*, September 21, after the patient was well. It will be noted that there was a distinct lag between the disappearance of fever and all other systemic manifestations and return of the electrocardiogram to normal.

The response was dramatic. The general condition of the patient was improved remarkably on the second day of aureomycin therapy. Pain became much less severe, the temperature did not rise above 100 F., and the pulse rate did not exceed 80 per minute despite the fact that the apparent size of the heart remained unchanged and a pericardial friction rub could still be heard. Improvement after this was rapid and progressive. The pericardial friction rub disappeared two days later, and the heart became smaller. The patient was discharged from the hospital sixteen days after commencement of aureomycin therapy, and he returned to his previous work two and a half weeks later.

The nature of the previous illness in 1937 could not be determined. It might have been a myocardial infarction or an attack of acute nonspecific pericarditis. It is known that recurrence is not at all rare in this form of pericarditis, and some weight can be given to such a possibility because the patient withstood severe physical hardships in the interval between attacks. The pericardial effusion, high fever during this attack and dramatic response to aureomycin after other therapy had failed speak against pericarditis associated with recent myocardial infarction. Finally, the prompt recovery and early return to full work also support the supposition that the pericarditis was infectious but not tuberculous or rheumatic in origin.

Case 2.—D. K., a man aged 25, was seen with Dr. O. Stein, who consented to have the patient included in our report. The man's illness began about one month before his admission to the Michael Reese Hospital with fever which lasted two weeks. A diagnosis of influenza was made, but two weeks before admission the fever returned, there was precordial pain and a nonproductive cough developed. A pericardial friction rub was now heard, and rheumatic pericarditis was suspected because the patient had chorea at the age of 14. However, there had never been joint symptoms, and there was no evidence of rheumatic joint involvement or valvular disease at this time. Bed rest and salicylates were without effect, all the manifestations became worse, and the temperature rose to 104 F.

Examination at the time of admission to the hospital revealed a heart rate of 120, decided enlargement of the heart, dulness on percussion and a loud pericardial friction rub over the entire precordium. The lower lobe of the left lung showed impaired resonance and a few crepitant rales.

The white blood cell count was 20,600 with 88 per cent polymorphonuclear cells. Blood cultures were consistently sterile. Roentgen examination of the chest showed pronounced cardiac enlargement suggestive of pericarditis, and the electrocardiogram showed the changes usually seen in acute diffuse pericarditis.

Bed rest, salicylates and symptomatic treatment for fifteen days failed to result in improvement, even when 600,000 units of penicillin was given daily. The patient was then given 500 mg. of aureomycin orally four times a day, with striking improvement on the second day after this antibiotic was administered. Improvement was rapid and progressive, and recovery was complete after eleven days of aureomycin therapy. As in the first patient, cardiac enlargement persisted for several days after improvement was apparent, but all symptoms disappeared and the size of the heart returned to normal within a few days.

The administration of aureomycin apparently resulted in prompt and rapid recovery after a previously stormy course. It is hardly a mere coincidence that improvement began so promptly after aureomycin was given these 2 patients in whom previous therapy had apparently failed.

Case 3.—A boy 15 years of age was admitted to the Michael Reese Hospital on July 3, 1949. He had a fairly loud systolic murmur at the apex of the heart for several years, but there was no history of rheumatic fever or scarlet fever, and no other cardiac abnormalities were present. He ran after a bus one day before admission to the hospital, at which time he experienced severe precordial pain which did not radiate. The pain persisted for several hours, and fever (99 F.) developed. Next day a loud pericardial friction rub was heard, although cardiac enlargement was not detected on physical examination. The temperature rose to 102.4 F., and two blood cultures remained sterile. An electrocardiogram showed the typical pattern of acute diffuse pericarditis, but there were no other abnormal physical or laboratory observations. Aureomycin was administered on July 4, one day after admission, in doses of 2 Gm. daily. The patient felt better the next day, the temperature fell to 100.8 F., but the pericardial rub could still be heard. The patient continued to improve, and the temperature returned to normal three days after aureomycin therapy was started.

Aureomycin was given four more days in doses of 1 Gm daily The patient left the hospital one week later feeling perfectly well

Follow-up studies revealed that, in spite of the clinical recovery of the patient and return of the sedimentation rate to normal at the time of his discharge the electrocardiogram continued to show typical further evolution of the pericarditis pattern

One week after the patient left the hospital when he was permitted to leave his bed for brief periods he again experienced chest pain similar to, but not as severe as that during the first episode The temperature rose to 99 6 F Physical examination revealed a tachycardia of 100 but no definite rub could be heard The patient was again given aureomycin 0.5 Gm every six hours for the first twenty-four hours and 0.25 Gm every six hours for the next four days, he promptly responded to the treatment

The question may be raised whether the pericarditis in this case might have been rheumatic in origin, especially since a murmur was heard for several years prior to the onset of the pericarditis Against such an assumption is the absence of a rheumatic history or evidence of rheumatic heart involvement other than the murmur The prompt response to aureomycin, the absence of residual cardiac involvement, the sudden onset and the absence of joint involvement speak strongly for a nonrheumatic origin

COMMENT

The possibility that aureomycin might be useful in acute nonspecific pericarditis suggested itself because this antibiotic has been of value against pneumonia of virus origin There is no conclusive evidence that acute nonspecific pericarditis is due to virus infection, although the opinion has been expressed that this might be the case

Other causes for the pericarditis in our patients were excluded No bacteria could be found in the pericardial fluid on smear or culture Repeated blood cultures were consistently sterile, and the course of the disease was benign, leaving no residual cardiac damage We recognized that negative evidence is not absolutely convincing so far as exclusion of rheumatic infection is concerned, but this type of infection could be excluded, in our judgment, by the absence of a history of rheumatic infection or of evidence of joint involvement or other manifestations of rheumatic heart disease The rapid recovery without residual damage or sequelae and the prompt response to aureomycin also contraindicate rheumatic infection Tuberculosis can be excluded on similar grounds as well as on the basis that guinea pig inoculation and bacteriologic studies of the pericardial fluid were negative The same may be said of other causes of pericarditis such as myocardial infarction and uremia

It may be argued that the disease in our cases was benign and self limited and that improvement after aureomycin therapy was merely coincidence This is hardly likely in view of the prompt and impressive improvement with rapid recovery in all 3 patients, especially when other forms of therapy in 2 patients were apparently ineffective and the clinical course became progressively worse until aureomycin was administered

Of further interest is the observation that fever fell and subjective improvement was definite even before the pericardial rub and other physical observations changed appreciably It is noteworthy that the pathologic process in the subepicardial layers must have gone on, as evidenced by the progressive changes in the electrocardiogram of case 3, even after clinical improvement was apparent and the sedimentation rate had returned to normal This would speak for the possibility that systemic toxicity is affected favorably even before local abnormalities are improved appreciably Similar phenomena have been observed with sulfonamide drugs and other antibiotics when used in a variety of other infections

SUMMARY

Final conclusions cannot be drawn from results of aureomycin therapy in a series of 3 patients with acute nonspecific pericarditis, and our report contains no controlled cases However, the striking results are suggestive and prompt us to publish them in the hope that the validity of our observations may stimulate others to make further studies of this comparatively rare disease

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APPLICATION OF CYTOLOGIC SMEAR METHODS TO CANCER DIAGNOSIS IN A GENERAL HOSPITAL

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Although the value of the cytologic smear as an aid in the diagnosis of cancer has been established by investigators[1] working intensively with large groups of potential tumor patients, there are relatively few general hospitals prepared to apply this method to their unselected hospital admissions Our experience since 1946 in instituting this method of diagnosis at the Peter Bent Brigham Hospital represents a practical test of the method in circumstances which it will probably encounter on a wide scale, in that the preparation, staining and interpretation of cytologic smears was undertaken by previously inexperienced personnel in a general hospital A considerable period of preparatory study was necessary before the laboratory was made available for daily clinical use This period of study under the guidance of experienced persons is a necessary preliminary to any worth while application of this method, since professional and technical personnel must acquire proficiency in interpreting the stained smears Once this educational process was complete, the laboratory could be opened for routine studies of patients on admission to the hospital This report presents a critical analysis of our experience in the past three years with the cytologic diagnosis of cancer as applied to an unselected hospital population

The technic of making and staining smears is relatively standard The technics originally described by

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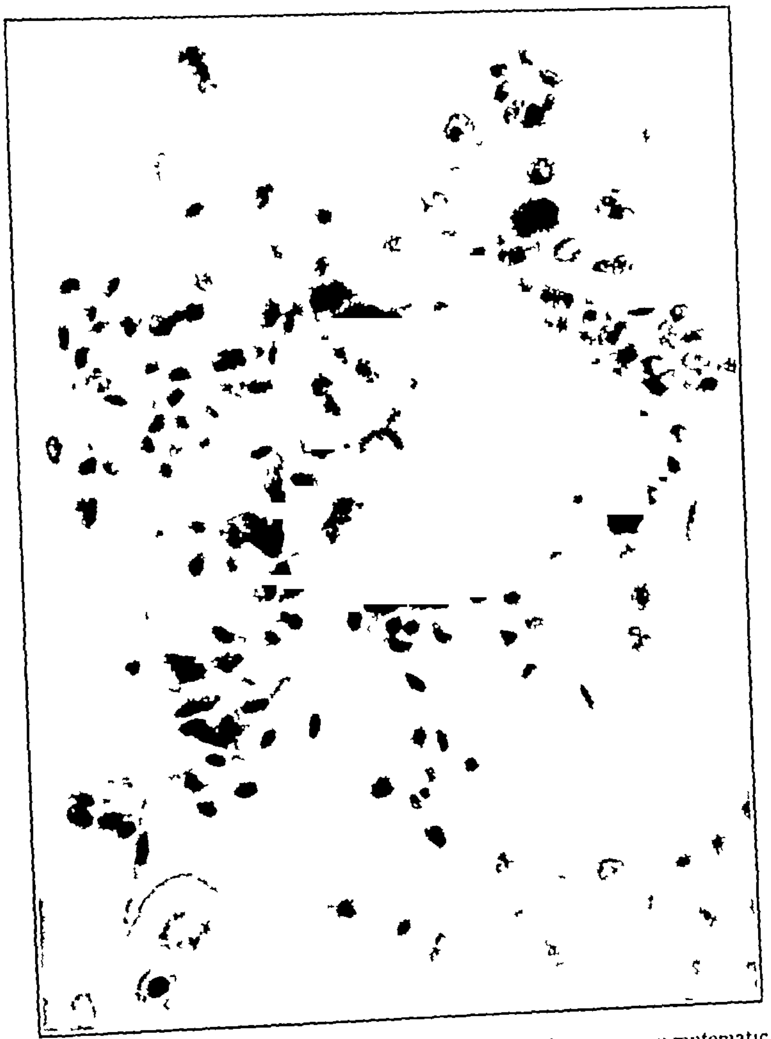
From the Surgical Service Peter Bent Brigham Hospital

Instructor in Surgery Harvard Medical School (Dr Botsford)

This study has been made possible by a grant from the American Cancer Society Massachusetts Division

[1] (a) Papanicolaou G N and Traut H F Diagnosis of Uterine Cancer by the Vaginal Smear New York The Commonwealth Fund 1943 (b) Meigs J V Graham R M Fremont Smith M Kapnick I and Rawson R W Value of Vaginal Smear in the Diagnosis of Cancer Surg Gynec. & Obst 77 449 (Nov) 1943 Gates O and Warren S Vaginal Smear in Diagnosis of Uterine Cancer Am J Path 21 567 (July) 1945 Isbell N P Jewett J F Allan M S and Hertig A T A Correlation Between Vaginal Smear and Tissue Diagnosis in 1 045 Operated Gynecologic Cases Am J Obst & Gynec. 54 576 (Oct.) 1947

Papanicolaou [2] for application to the various body fluids are the procedures of choice and in general any fluid that will stick to a glass slide can be adapted to this method The chief factor in obtaining good cell detail is to fix the smear immediately If the stained smear shows unsatisfactory cell detail the technician should so state and should request that a repeat smear be made rather than make an unsound diagnosis on a poorly fixed and poorly stained smear In one patient of our series a carcinoma of the cervix uteri would have been missed except for this precaution We have found that, with the exception of gastric contents there is little difficulty in obtaining satisfactory smears of various bodily secretions



Photomicrograph (× 450) of a vaginal smear from an asymptomatic woman aged 65 This smear was read as class 4 (few tumor cells) because of the cells in the clump and along its upper right margin with hyperchromatic nuclei slightly prominent nucleoli and scanty cytoplasm The elongated cells are probably normal endocervical cells Three biopsies of the cervix have shown only chronic cervicitis and six subsequent vaginal smears have shown no similar cells This is classified as a false positive result but the patient is still being followed

The actual cost of individual smears is low, and in our laboratory the average cost per smear to date is about $1 The time involved to prepare and stain smears is relatively small, and the major portion of the technician's time is spent in interpretation The interpretation of the cytologic smear is the most difficult aspect of the method Each smear requires three to five minutes, and if there are any unusual cells, which is more often the case fifteen to twenty minutes per smear is required If one has not reached a decision after studying a smear for twenty minutes, it is best to set the smear aside and look at it again the next day Conclusions must not be made from the study of such smears except by those who are familiar with the normal cells and their variants of the region of the body under investigation When these are recognizable malignant cells, if present usually can be identified Even in the most experienced hands some cytologic smears may be impossible to classify [3]

The two mistakes that are encountered in cytologic diagnosis are the false positive report and the false negative report In our opinion a false positive report is one in which malignant cells have been identified in a smear but the clinical examination of the patient, biopsy of the suspected lesion and repeat smears have not confirmed the diagnosis of cancer The danger of the false positive report is that unnecessary radical therapy may be performed without further confirmation of the diagnosis This mistake may be due to failure to recognize the presence in the smear of atypical normal cells It must be remembered that the false positive result may be a true positive, and the patient should be examined frequently to seek the source of the abnormal cells In this respect a single biopsy may be interpreted as normal and yet the patient may have cancer, serial sections of biopsy material should be made lest an early lesion be overlooked An example of one of our false positive smears is shown in the accompanying illustration

The false negative smear means that the patient has cancer but the smear of the exfoliated cells from that region of the body shows no malignant cells This error gives an unjustified sense of security to patient and physician alike and is the most dangerous type of error This weakness is inherent in the method, which is based on the rationale of exfoliation of tumor cells when the tumor faces on an open surface Thus the smear may not be representative, and tumor cells may not be present Poor fixation and poor staining of the smear may contribute to this mistake The patience and training of the person interpreting the smear is of utmost importance There are no short cuts to the examination of a cytologic smear, there is no tissue architecture to follow, and the entire smear must be carefully scanned A negative smear does not guarantee that the patient does not have cancer, and in no way should a negative smear influence the ordinary indications for further clinical investigation Because of the foregoing facts we have tried to avoid the use of the terms positive and negative in reporting the results of cytologic smears For over two years we have used a modified version of Dr G N Papanicolaou's method of reporting the results of interpretation of smears

Class 1	No tumor cells found
Class 2	No tumor cells found but evidence of abnormal conditions as manifested by many leukocytes, red blood cells, atrophic cells, trichomonas, histiocytes or lack of estrogenic activity
Class 3	Questionable cells found, which could or could not be tumor cells, smear should be repeated
Class 4	Tumor cells found (few)
Class 5	Tumor cells found (many)

Our results are reported herein on the basis of the first smear, and class 3 (suspicious) smears are counted as errors

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[2] Papanicolaou G N and Cooper W A The Cytology of the Gastric Fluid in the Diagnosis of Carcinoma of the Stomach J Nat Cancer Inst **7** 357 (April) 1947 Papanicolaou G N Cytology of the Urine Sediment in Neoplasms of the Urinary Tract J Urol **57** 375 (Feb) 1947, Diagnostic Value of Exfoliated Cells from Cancerous Tissues J A M A **131** 372 (June 1) 1946 Papanicolaou and Traut in

[3] Papanicolaou G N Personal communication to authors

CARCINOMA OF THE UTERUS

Vaginal smears were made routinely on all patients examined in the gynecologic clinic and on all women admitted to the hospital regardless of their chief complaint. A total of 3,000 women were examined, and approximately 25 per cent of them had gynecologic complaints. However, this series cannot be construed to be a "screening test" in the public health sense of the word. There were 65 patients with uterine cancer in this group, of whom 43 had carcinoma of the cervix uteri and 22 had carcinoma of the endometrium.

A correct diagnosis of carcinoma was made on a single initial vaginal smear in 40 of the 43 cervical cancers, a diagnostic error of 6.9 per cent (table 1). A careful review of the clinical records of the patients with proved carcinoma of the cervix showed that 38 patients were suspected of having cancer from their signs and symptoms. The initial smears showed malignant cells in all except 3 patients of this group; the case histories of these patients are briefly summarized.

Case 1.—A white woman aged 56 entered the hospital because of postmenopausal bleeding of six months' duration. Examination showed a large eroded area on the cervix which the biopsy proved to be epidermoid carcinoma. The initial vaginal smear was class 1 (no tumor cells) but repeat smears were class 5 (many tumor cells).

Case 2.—A Jewish housewife aged 53 entered the hospital because of postmenopausal bleeding of five months' duration. Examination showed a friable cervix that bled easily. The biopsy of the cervix showed an anaplastic carcinoma. The initial vaginal smear was class 1 but subsequent smears were class 5 (many tumor cells).

Case 3.—A white housewife aged 49 entered the hospital because of postcoital bleeding. The vaginal smear was class 1 (no tumor cells), but biopsy of the eroded cervix showed squamous cell carcinoma. No repeat smears were made prior to treatment.

There were 5 patients in whom the presence of carcinoma of the cervix was unsuspected and the primary diagnosis was made by the initial vaginal smear. Brief summaries of the histories of these patients follow.

Case 4.—A Jewish housewife aged 45 entered the hospital because of cholelithiasis. She had had no abnormal vaginal bleeding or discharge. The cervix showed no lesion. The routine vaginal smear was class 4 (few tumor cells). A biopsy of the cervix was made and showed no tumor. The biopsy was repeated and was reported as epidermoid carcinoma of the cervix.

Case 5.—A white woman aged 45 had been followed in the outpatient department for one year because of dysmenorrhea and pain in the left lower abdominal quadrant. A diagnosis of pelvic inflammatory disease had been made at another hospital one and one-half years previously. There was a tender mass in the left vault. The vaginal smear was class 4 (few tumor cells), and biopsy of the cervix showed carcinoma in situ.

Case 6.—A white woman aged 59 entered the hospital for repair of a cystocele and rectocele. A supracervical hysterectomy had been performed fifteen years previously. The routine admission vaginal smear was class 5 (many tumor cells). The cervix was nodular because of chronic infection but there was no suspicious area for biopsy. The cervical stump was amputated, and serial sections of the specimen showed carcinoma in situ.

Case 7.—A Jewish housewife aged 48 entered the hospital because of a cystocele and rectocele. The cervix was small, smooth and normal in appearance. The initial vaginal smear was class 5 (many tumor cells). The first biopsy of the cervix showed no cancer. A second biopsy showed epidermoid carcinoma. Radical hysterectomy and dissection of the pelvic lymph nodes was performed. The specimen showed no evidence of lymphatic extension of the carcinoma, but there was early local invasion.

Case 8.—A white woman aged 70 entered the hospital because of acute cholecystitis. There had been no postmenopausal bleeding and the cervix was clean and appeared normal. The initial vaginal smear was class 5 (many tumor cells). Biopsy of four areas of the cervix was made before a diagnosis of squamous cell carcinoma of the cervix was made.

Of the 22 patients with carcinoma of the endometrium, a correct diagnosis by smear was made in 19 instances, an error of 13.1 per cent (table 2). The diagnosis of endometrial carcinoma was suspected because of signs and symptoms in 17 patients, but in 2 of these patients the initial vaginal smears showed no malignant cells. The diagnosis was proved by examination of the endometrial curettings, and the negative smears did not delay the treatment of these patients.

Table 1.—*Carcinoma of the Cervix*

Number of patients with carcinoma of the cervix	43
Initial single smear positive (tumor cells present)	40
Initial single smear negative (no tumor cells found)	3
Clinical diagnosis primary	38
Primary diagnosis by smear	5

Table 2.—*Carcinoma of the Endometrium*

Total number of patients with endometrial carcinoma	22
Initial single smear positive (tumor cells present)	19
Initial single smear negative (no tumor cells found)	3
Clinical diagnosis primary	17
Primary diagnosis by smear	4
Diagnosis missed by smear and clinically	1

One instance of carcinoma of the endometrium was unsuspected clinically and a single vaginal smear showed no tumor cells. The correct diagnosis was only made when the uterus was removed incidental to surgical intervention for an ovarian tumor. The case report follows.

Case 9.—A white housewife aged 37 entered the hospital because of pain in the left lower abdominal quadrant. Examination showed a mass the size of an orange in the left side of the pelvis. This mass was found to be a cystadenocarcinoma of the left ovary and a total hysterectomy and bilateral salpingo-oophorectomy was performed. The specimen showed a small primary adenocarcinoma of the endometrium as well as the ovarian tumor. Careful review of the vaginal smear showed no cells that could be called malignant.

There were 4 instances in which the primary diagnosis of cancer of the endometrium was made by smear in patients who were not suspected of having cancer.

Case 10.—A white woman aged 46 received a routine physical examination. Her menstrual flow had been scanty and periods irregular for one year. The uterus was symmetric and freely movable but slightly enlarged. The vaginal smear was class 4 (few tumor cells). The uterine curettings showed adenocarcinoma and the extirpated uterus showed a small carcinoma.

Case 11.—A white woman aged 68 was seen because of a purulent vaginal discharge. A diagnosis of trichomonas vaginitis was made, but the cytologic smear was class 5 (many tumor cells). The endometrial curettings showed adenocarcinoma, which in the extirpated uterus was found to be small and well localized

Case 12—A white woman aged 48 entered the hospital because of fever and abdominal pain of two weeks' duration Her abdomen was tender and the uterus enlarged to the size of an orange The vaginal smear was class 5 (many tumor cells), and the uterine curettings showed adenocarcinoma At laparotomy the patient was found to have generalized peritonitis, which was the preoperative diagnosis The patient died on the third postoperative day Autopsy showed a large fibroid uterus but no carcinoma remaining after the curettage The cause of the peritonitis was a perforated appendix

Case 13—A white housewife aged 65 entered the hospital for treatment of bleeding hemorrhoids Pelvic examination showed no abnormalities The routine vaginal smear was class 5 (many tumor cells) The endometrial curettings showed carcinoma

Early diagnosis of unsuspected uterine cancer was made in 5 patients with cervical carcinoma and in 4 patients with adenocarcinoma of the endometrium This can be restated to say that of 10 patients with unsuspected cancer of the uterus, a primary diagnosis of carcinoma was made by a single initial vaginal smear in all these patients except 1, an error of 10 per cent Regardless of the results of statistical evaluation, the 9 patients with a primary diagnosis of uterine cancer by smear represent early diagnosis of unsuspected cancer and are unshakable evidence of the value of this method of diagnosis As stated previously, 1 unsuspected endometrial cancer was missed both by smear and by clinical examination and was found only because of other indications for hysterectomy

Fifty-five patients had signs and symptoms suggestive of uterine cancer, and the initial vaginal smear contained malignant cells in all but 5 instances, an error of 9 1 per cent Three patients with obvious carcinoma of the cervix and 2 patients with clinical evidence of carcinoma of the endometrium showed no tumor cells in their smears and represent the 5 errors in clinically suspected uterine carcinoma The over-all results in 65 uterine carcinomas showed a *diagnostic error of* 9 2 per cent by single initial smear A false positive error was made in 21 of 2,935 patients, an error of 0 7 per cent

CARCINOMA OF THE URINARY TRACT

The urinary tract is suitable for the application of the cytologic technic because of the ready availability of large amounts of cell-containing fluid Smears of the urinary sediment were made from 373 patients admitted to the urologic service Seventy-eight of these patients had carcinoma, and in all but 2 tumor cells were present in the initial smears Twelve false positive diagnoses were made in 295 patients, an error of 4 1 per cent, but only 2 false negative results have been encountered The study of urine sediment is an invaluable aid to the postoperative follow-up of patients with carcinoma of the bladder,[4] since, once a carcinoma has developed, new lesions can be expected to appear although the original lesion has been removed or destroyed It has also been of aid in the primary diagnosis of carcinoma of the kidney and is a worthy addition to the exact methods of urologic diagnosis already available A more detailed analysis of our experience with urine smears is in preparation[4]

CARCINOMA OF THE STOMACH

Our early experience with the cytologic diagnosis of gastric carcinoma was disappointing, in that we were unable to obtain uniformly satisfactory smears of gastric fluid Since we have modified our technic of processing gastric contents our smears have been more uniformly reliable With the present technic the patient to be studied has nothing by mouth for eight hours before a small soft rubber gastric tube is passed into the patient's stomach Liquid petrolatum should not be used as a lubricant for the tube, and we prefer to use glycerin instead Twenty to thirty cubic centimeters of isotonic sodium chloride solution is injected into the stomach, and then the gastric contents are aspirated and mixed immediately with an equal volume of 95 per cent alcohol The mixture is centrifuged for ten minutes, and the sediment is spread on a glass slide thinly filmed with egg albumin This smear is then fixed and stained as for the vaginal smears[1a] In a series of 10 patients we substituted 15 cc of 70 per cent alcohol for the isotonic sodium chloride solution for gastric aspiration Excellent fixation was obtained by this method, but we do not recommend its use as it may be harmful to patients with gastritis or peptic ulcer, although there were no untoward effects in our series

In 17 of 23 patients with carcinoma the stomach smears of the gastric contents showed tumor cells, and a false positive diagnosis by smear was made in 4 of 101 patients In this series of patients who were studied because of suggestive gastric symptoms, the accuracy of cytologic diagnosis has not approached that of roentgenologic examination However, when a gastric smear shows malignant cells it is significant and of definite aid to the surgeon in the management of gastric lesions such as gastric ulcer Smears of lesions of the colon and rectum can be made through the sigmoidoscope and are of diagnostic value Wisseman, Lemon and Lawrence[5] have suggested that cytologic smears of the colon and rectum may be of value in the study of conditions other than malignant

CARCINOMA OF THE LUNG

McKay and his co-workers[6] reported an accuracy of 40 positive smears of bronchial smears in 54 patients with carcinoma of the lung They concluded that "a positive smear may be an indication for thoracotomy but not for pneumonectomy" This is a strong recommendation for the use of the smear technic in the diagnosis of carcinoma of the lung We have studied sputums and bronchial washings from 121 patients, of whom 19 had pulmonary carcinoma We made a correct diagnosis of 16 of the 19 lesions Five false positive results were reported in 102 patients In our experience, examination of bronchial washings is much more technically satisfactory than that of sputums, because the latter contain so much mucus and epithelium from the mouth and pharynx

OTHER APPLICATIONS OF THE CYTOLOGIC TECHNIC

We have studied cytologic smears of ascitic fluid, pleural fluid, cyst fluid and spinal fluid Fluid from these sources must be centrifuged and the sediment fixed immediately Good cell detail and about 80 per cent accuracy have been obtained In our experience to date, the study of these types of fluid by the cytologic method has not offered the diagnostic aid that the method has in other regions of the body

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[4] Botsford, T W, Harrison J H and Tucker, M R Unpublished Data

[5] Wisseman, C L, Jr, Lemon H M and Lawrence K B Cytologic Diagnosis of Cancer of the Descending Colon and Rectum Surg Gynec & Obst **89** 24 (Aug) 1949

[6] McKay, D G, Ware P F, Atwood D A, and Harken, D E The Diagnosis of Bronchogenic Carcinoma by Smears of Bronchoscopic Aspirations, Cancer **1** 208 (July) 1948

COMMENT

The cytologic diagnosis of cancer has its largest application, both in accuracy and practicability in the diagnosis of uterine and urinary tract carcinoma The secretions from these anatomic regions are constantly and easily available Although the exfoliated cells from the stomach and lungs are not as easily available, the study of the cells from these sources provides a significant aid in the diagnosis of lesions of those areas

The cytologic technic is not infallible, and it does not replace or contraindicate any other known means of cancer diagnosis It is true that many instances of early cancer have been first diagnosed by this method, but it is also true that established clinical cancer can be missed by this same method We have recently seen a patient who had a negative vaginal smear at another clinic four months previously She had had some vaginal staining in the interim and was clinically suspected of having carcinoma of the cervix The vaginal smear was class 5 (tumor cells present), and biopsy of the cervix showed carcinoma Thus, a single negative smear of any material does not preclude the presence of cancer In this respect the comment of Lombard and associates,[7] although in reference to vaginal smears as a screening test, is equally applicable to all smears called negative "the final evaluation of the technic as a screening test cannot be made until the results of the follow-up study are known three years hence" A smear that shows tumor cells warrants further investigation of the patient, and repeated similar results are highly indicative that the patient has carcinoma in the region from which the secretions were obtained This relatively new mode of diagnosis has aroused a realistic interest in the early diagnosis of cancer, an event that in itself is of inestimable importance

SUMMARY

1 Experience with the cytologic technic of cancer diagnosis over a three year period in a general hospital is analyzed

2 The significance of a positive (tumor cells present) smear versus a negative (no tumor cells found) smear is stressed

3 The number of false positive diagnoses is small, and a positive smear is significant

4 A single negative smear does not preclude the presence of cancer

5 The method is of practical value in the diagnosis of uterine and urinary tract carcinoma and is easily applied to large numbers of patients

6 The method is an aid in the diagnosis and management of gastric and pulmonary lesions

7 The cytologic technic is elastic and can be applied to many body secretions, but it does not replace other methods of diagnosis

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[7] Lombard H L Middleton M Warren S and Gates O Use of the Vaginal Smear as a Screening Test, New England J Med **239**: 317 (Aug 26) 1948

LATE SPONTANEOUS RUPTURE OF THE EXTENSOR POLLICIS LONGUS TENDON FOLLOWING COLLES' FRACTURE

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Subcutaneous rupture of the extensor pollicis longus tendon was first described in the latter part of the nineteenth century Kettledrummers in the German army, especially beginners, were prone to lose the use of their thumbs The military surgeons considered the lesion to be a nerve paralysis and called it ' Trommlerlähmung" or "drummer's palsy " Düms[1] subsequently revealed the loss of use of the thumb to be due to a tendon rupture Instances have also been recorded of subcutaneous ruptures of tendons about the wrist which have occurred in carpenters tailors and reed weavers

Subcutaneous rupture of a tendon at the wrist is uncommon When the tendon is subjected to any great strain, either the periosteal insertion may give way and carry with it a fragment of bone or a rupture may occur at the musculotendinous junction In order to rupture spontaneously the tendon must have been previously damaged by either trauma or disease Late subcutaneous rupture of the extensor pollicis longus tendon following Colles' fracture is infrequent In 1932 McMaster[2] was able to find only 27 cases in the literature

ANATOMY

The muscle fibers originate from the lateral part of the middle third of the dorsal surface of the ulna and the interosseous membrane The fibers converge to form a long tendon, this passes through a separate compartment in the dorsal carpal ligament and lies in a narrow oblique groove on the back of the radius On emerging from this compartment, it passes obliquely around the lateral bony ridge of the radial groove and crosses the tendons of the extensores carpi radialis longus and brevis, to the ulnar side of the first metacarpal, and is inserted into the base of the distal phalanx of the thumb (fig 1) The tendon forms the ulnar border of the "anatomist's snuff box " The dorsal carpal ligament prevents its displacement when the wrist is hyperextended The tendon is surrounded by a synovial sheath in which, normally, there is little synovial fluid present, but irritation increases the quantity of fluid

MECHANISM

Various theories have been presented in an endeavor to explain the mechanism of this lesion following Colles' fracture Kleinschmidt[3] produced fractures at the lower end of the radius in cadavers and always found a small tear in the extensor pollicis longus tendon or its sheath, resulting from a small fragment of bone

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Read before the Section on Orthopedic Surgery at the Ninety Eighth Annual Session of the American Medical Association Atlantic City N J June 8 1949

[1] Düms F Ueber Trommlerlahmungen Deutsche Militararzt Ztschr **25** 145 1896

[2] McMaster P E Late Ruptures of Extensor and Flexor Pollicis Longus Tendons Following Colles Fracture J Bone & Joint Surg **14** 92 1932 Tendon and Muscle Ruptures Clinical and Experimental Studies on the Causes and Location of Subcutaneous Ruptures ibid. **15**: 705 1933

[3] Kleinschmidt K Versuche zur Erklarung der Spatruptur der langen Daumenstreckseh ne nach Radiusfraktur Beitr z. klin Chir **146** 530 1929

while the other tendons remained intact In the case reported by McMaster, the tendon ends were found to be divided by a sharp bony prominence on the back of the radius Scudder expressed the belief that the rupture results from the tendon being caught up by adhesions In Ashhurst's[4] patient, the tendon was adherent to the callus Axhausen[5] was of the opinion that the rupture is caused by the continual rubbing of the tendon over a sharp bone edge Weigeldt[6] and Hauck[7] attributed it to the tearing of the mesotendon occurring at the time of fracture, with consequent disturbance of the blood supply resulting in necrosis and rupture Kwedar and Mitchell[8] surmised that the rupture is due, most likely, to direct injury to the blood vessels Smith[9] considered it to be the result of an aseptic necrosis caused by the disturbed blood supply of the tendon at the distal end of the groove Lipshutz[10] explained it on a morphologic basis In cadaver studies he found considerable variation in the bony ridges which border the groove for this tendon Microscopically, he noted a wide variation in the elasticity and muscle content of the blood vessels, regardless of age

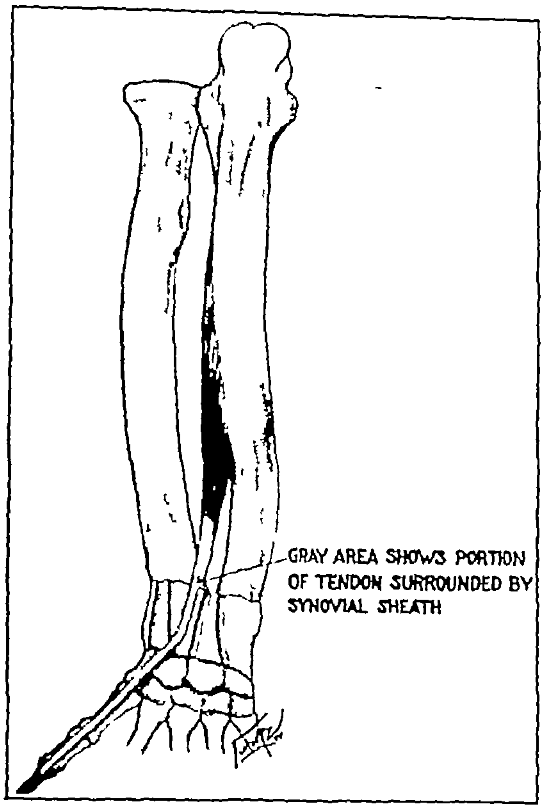
GRAY AREA SHOWS PORTION OF TENDON SURROUNDED BY SYNOVIAL SHEATH

Fig 1 —Extensor pollicis longus muscle

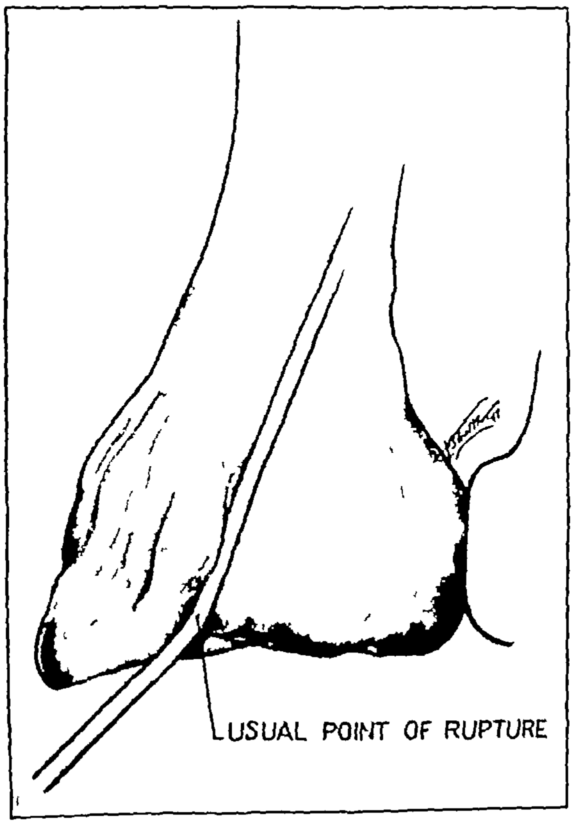

Fig 2 —The groove for the extensor pollicis longus is narrower more oblique and deeper than the other grooves

The groove for the extensor pollicis longus is much more oblique, deep and narrow than the grooves for the other tendons about the wrist (fig 2) It is not difficult to visualize how this tendon, which is taut at the time of fracture, can be partially lacerated by being caught between a sharp fragment of bone and the strong, unyielding dorsal ligament In many of the reported cases, however, the fracture was nondisplaced or so insignificant or incomplete that the rupture cannot be explained on this basis In these cases it must be assumed that the rupture is the result of the blood supply being disturbed either by a thrombosis of the vessels or by pressure from edema or hemorrhage The decreased blood supply, in turn, causes adhesions, fraying and, finally, rupture of the tendon

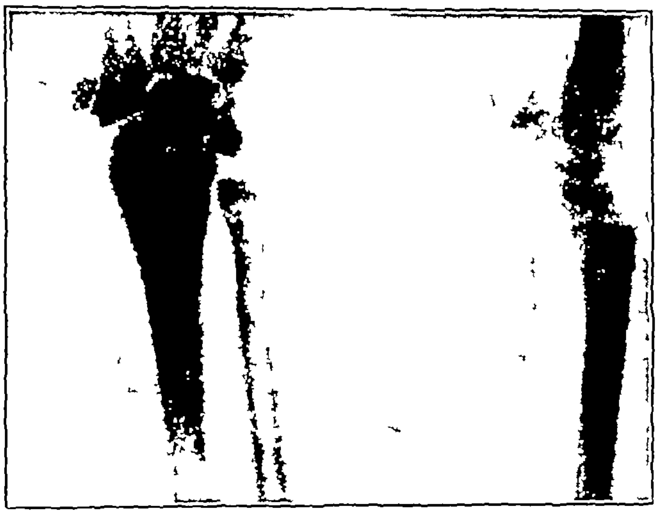

Fig 3 —Slight epiphyseal displacement lower end of right radius

SYMPTOMS AND SIGNS

In the majority of cases there are no premonitory symptoms Occasionally, the patient may have a sharp pain or may experience a snapping sensation when the rupture occurs Previous to rupture, there may have been a sensation of weakness or soreness accompanied with inability to pick up small objects On the other hand, the patient may be totally unaware that any mishap has occurred until he notices the dysfunction of his thumb

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[4] Ashhurst, A P C Rupture of Tendon of Extensor Longus Pollicis Following a Colles' Fracture Ann Surg **78** 398, 1923

[5] Axhausen G Tardy Rupture of Tendon with Fracture of Radius, Beitr z klin chir **133** 78 1925

[6] Weigeldt W Ueber die Spontanrupturen der Fingersehnen Beitr z klin Chir **94** 310 1914

[7] Hauck, G Ueber die Rupture der Extensor pollicis longus Sehne nach typischem Radiusbruch und ihre operative Behandlung, Arch f klin Chir **134** 81, 1923

[8] Kwedar A T, and Mitchell, C L Late Rupture of Extensor Pollicis Longus Tendon Following Colles' Fracture J Bone & Joint Surg **22** 429, 1940

[9] Smith F M Late Rupture of Extensor Pollicis Longus Tendon Following Colles Fracture, J Bone & Joint Surg **28** 49 1946

[10] Lipshutz, B Late Subcutaneous Rupture of the Tendon of the Extensor Pollicis Longus Muscle, Arch Surg **31** 816 (Nov) 1935

Diagnosis is not difficult The patient is unable to extend the distal phalanx of the thumb The thumb droops as a whole, because of loss of the oblique pull of the tendon The ulnar border of the "anatomist's snuff box" disappears The tendon ends may be palpated If the distal end of the tendon is bound down by dense adhesions to the lower end of the radial groove, the downward displacement of the distal phalanx may be slight There are no sensory changes, and the tendon does not respond to faradic stimulation Crepitation along the radial groove may be present If the radial (posterior interosseous) nerve were involved there would be inability to extend all the fingers at the metacarpophalangeal joints in addition to the thumb

PATHOLOGIC PROCESS

The tendon ends may be frayed and one or both ends may be attached to the surrounding tissues The ends of the tendon may be enlarged bulbous and have a yellowish appearance There may be considerable retraction, especially of the proximal portion The groove on the dorsum of the radius, through which the tendon passes, may be entirely obliterated by scar tissue The distal end may be loosely attached The proximal end may be difficult to identify and may be densely adherent to the callus in the radial groove Microscopic examination reveals hyaline degeneration, evidence of old hemorrhage, infiltration with lymphocytes, fibroblasts and, at times, granulation tissue In milder cases the tendon may be stretched and not completely separated, and it may or may not be adherent to the surrounding tissues The site of the rupture is usually at the lower border of the radial tubercle

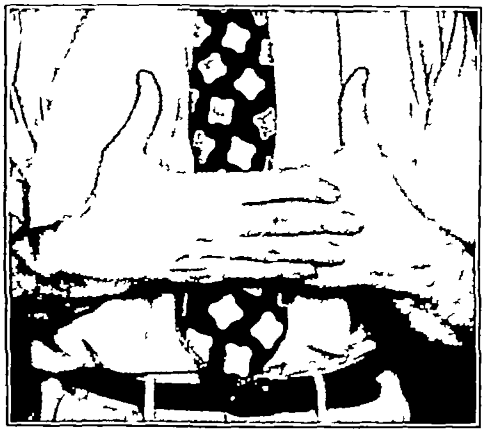

Fig 4 (case 1) —Both hands eleven and one half years after operation Note full extension of the right thumb

TREATMENT

Treatment is surgical Ideally, this consists of primary end to end suture This may not be possible, however, because of the marked retraction of the divided tendon, the degree of adhesions or severe degenerative changes The radial groove may be entirely filled with dense scar tissue which would prevent replacement of the tendon in its normal site Frequently, an end to end suture can be accomplished subcutaneously Platt[11] and Smith have emphasized the importance of retaining the oblique course of the tendon If this is not accomplished, elongation of the tendon may result in inability to extend the distal phalanx completely When an end to end suture is not possible various forms of tenoplasty have been used The tendon has been lengthened Duplay[12] sutured the distal end to the extensor carpi radialis longus by making a buttonhole in this tendon The distal end has also been sutured to the extensor pollicis brevis or to the abductor pollicis longus Smith has sutured the distal end to the extensor carpi radialis by side to side suture and then has brought the extensor pollicis brevis over the sutured tendon Free tendon grafts have also been employed

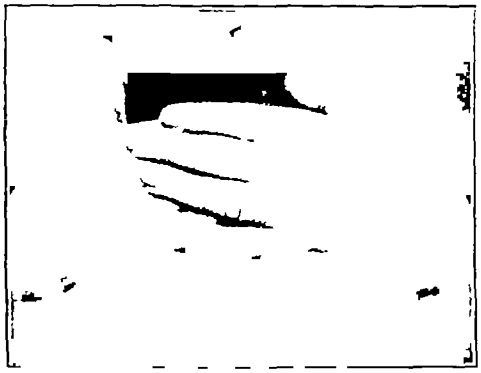

Fig 5 (case 2) —Both hands prior to operation Note drooping of left thumb and loss of extension of distal phalanx

I have used grafts of dead ox fascia for the past eleven years, with favorable results, after an experimental study[13] To review this study briefly, there was complete substitution of the graft in forty-two days and the dead fascia was well tolerated, with no foreign body giant cell reaction except around the silk sutures

Postoperatively, a cast is applied extending from below the elbow to the metacarpophalangeal joints and the tip of the thumb, with the wrist in a slight cock-up position and the thumb extended and elevated The cast is bivalved on the twelfth day and guarded motions are instituted The cast is discarded about the fourth week, and exercise is gradually increased Useful function can be obtained only by operation On the whole results have been satisfactory

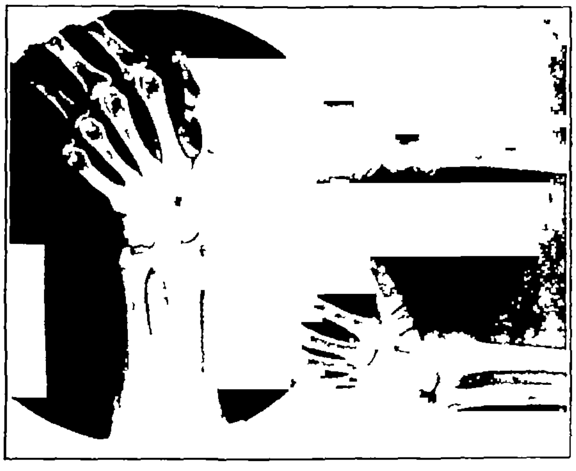

Fig 6 (case 2) —Left thumb Comminuted fracture of lower end of radius with moderate dorsal displacement and some derangement of the articular surface

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[11] Platt, H Observations on Some Tendon Ruptures Brit. M J 1:611 1931

[12] Duplay M Rupture sous—cutanee du tendon du long extenseur du pouce Retablissement de la faculte d extension par une operation (suture de l extremite du tendon rompu avec le premier radial externe) Bull et mem Soc. nat. de chir 2 788 1876

[13] Weinberg E. D Dead (Ox) Fascia Grafts in Tendon Defect Arch Surg 37 570 (Oct) 1938

REPORT OF CASES

Case 1—S A, a schoolboy aged 16, was first seen on Nov 12, 1937, two days after he had fallen on his outstretched right hand Roentgenographic examination revealed a slight displacement of the lower radial epiphysis (fig 3) Five weeks after the injury and one week after the removal of the splints, he experienced a sharp pain on the back of the wrist while putting his hand into his pocket and thereafter was unable to use his right thumb normally

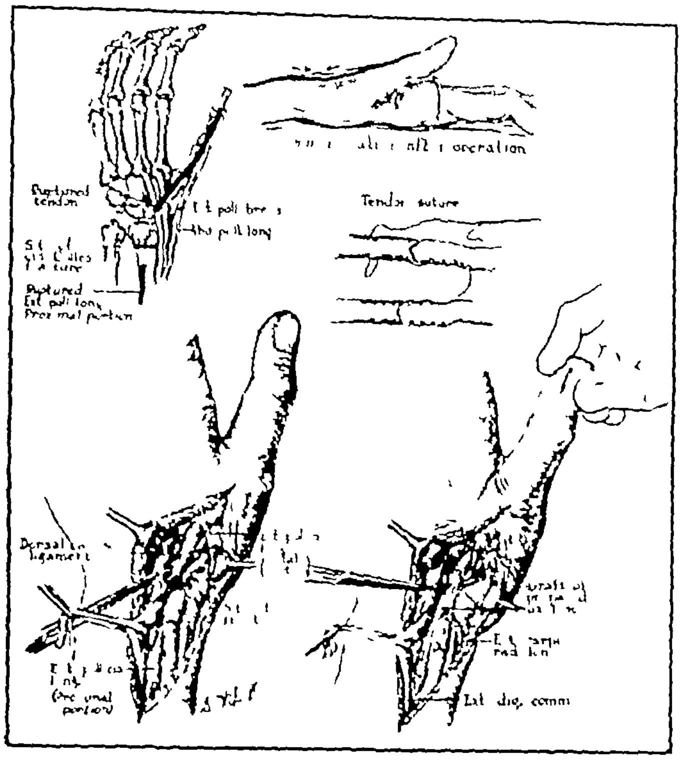

Fig 7 (case 2) —Tendon ends bulbous and thickened Note adhesions retraction of tendon Repaired with graft of preserved ox fascia

At operation on Dec 23, 1937, the extensor pollicis longus tendon was found to be ruptured just above the fracture site The distal end was somewhat ragged and adherent The proximal end had retracted above the dorsal carpal ligament The radial groove was smooth The tendon rupture was repaired by end to end sutures Microscopic examination disclosed hyalinization of a moderate degree

It is now eleven and one-half years since the tendon was repaired Muscle tests made by the Kendalls of the Children's Hospital School revealed no weakness of the tendon The patient has been able to use his thumb efficiently, even through four years of military service (fig 4) The only inconvenience he suffered was an inability to keep his thumb entirely straight during the conventional military salute

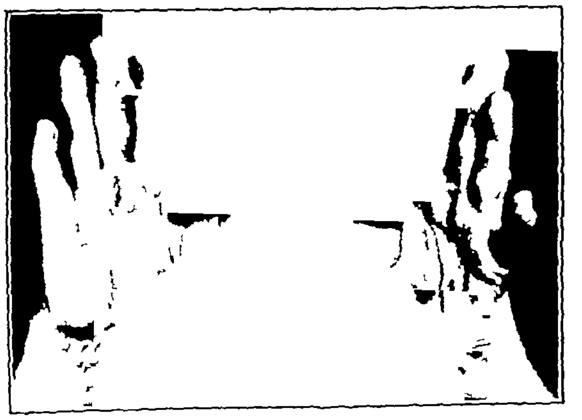

Fig 8 (case 2) —Both hands nine years after operation Full extension of left thumb

Case 2—A M, a 61 year old woman, was first seen on Jan 12, 1940, seven weeks after she had sustained a Colles fracture of her left wrist Eighteen days after the fracture she noted impairment in the use of her left thumb The fracture had not been manipulated or immobilized There was some thickening about the wrist, with about 25 per cent loss of flexion and extension, slight radial deviation and complete loss of extension of the distal phalanx of the thumb (fig 5) Roentgenographic examination disclosed a comminuted fracture at the lower end of the left radius, with moderate dorsal displacement and some derangement of the articular surface (fig 6)

The rupture was repaired on January 14 The distal end of the tendon was found to be bulbous thickened and yellowish It was bound down by adhesions The proximal end had retracted and was also adherent When the tendon ends were mobilized and resected, there existed a gap of 6 cm, in which a graft of dead ox fascia was inserted (fig 7) Microscopically there were dense scarred hyaline tissue and acellular fibrous tissue with no inflammatory cells

On April 12, 1949, about nine years and three months after operation, examination revealed excellent function, with full extension of the thumb (fig 8) She was not able to bring the thumb up to the level of the second metacarpal, but a muscle examination by the Kendalls disclosed this to be due to a tightness of the adductor pollicis and flexor pollicis brevis muscles rather than to a weakness of the extensor pollicis longus

Case 3—F S, a man aged 56, was first seen on March 4, 1949 On Nov 28, 1945, he sustained a fracture of the lower end of his left radius Roentgenographic examination revealed a nondisplaced fracture about 3 inches (7 6 cm) above the wrist joint The lower end of the radius was broadened and cystic (fig 9) Healing of the fracture was apparently complete, as noted in roentgenograms taken on Jan 12, 1946 He had no further trouble until Feb 12, 1949, when he again fell and landed on the same hand There were no demonstrable fractures, and there was no appreciable change in the bone lesion when compared with that in roentgenograms taken on Nov 28, 1945 Thirty days after this second injury, he began to experience a feeling of soreness of the left thumb, and on the thirty-fifth day he was unable to use the thumb normally It drooped as a whole, and there was inability to extend the distal phalanx (fig 10)

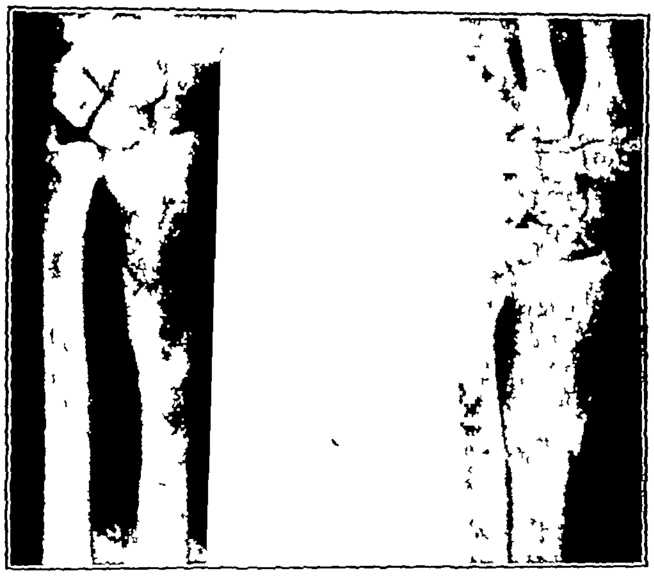

Fig 9 (case 3) —Left wrist Nov 29 1945 Nondisplaced fracture Lower end of radius broadened and cystic

At operation, on May 6, 1949, the distal end of the ruptured extensor pollicis longus was found to be tied down by adhesions to the lower border of the dorsal carpal ligament The tendon end was slightly bulbous and indurated The radial groove was smooth The proximal portion of the tendon could not be identified Repair was accomplished by attaching the distal portion of the tendon to the extensor pollicis brevis tendon by a graft of dead ox fascia The graft was held in the radial groove by the sutured dorsal carpal ligament (fig 11)

It is too early to show the final results of this case However, it was thought worth while to present it, as it portrays a typical clinical picture It also demonstrates the gross and microscopic changes in the ruptured tendon and the method of repair

STATISTICAL DATA

Latent Period—In the cases compiled by Kwedar and Mitchell,[8] the average interval between the Colles fracture and the tendon rupture is six weeks McMaster stated that the rupture occurs between the third week and the third month In Smith's cases, the average lapse is twenty-nine days In our series, the rupture occurred on the eighteenth, thirtieth and thirty-fifth days

Incidence—Porsch,[14] Oppolzer[15] and Horowitz[16] cited an incidence of one rupture in 270 fractures Smith noted an incidence of one in 280 cases

Age—The rupture may occur at any age, but it is most common after 30 The youngest age is reported by Lülsdorf[17], in his case the rupture occurred in a 14 year old girl

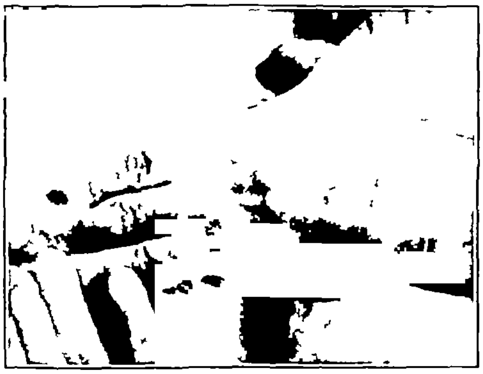

Fig 10 (case 3)—Left hand prior to operation Note drooping of thumb and loss of extension of distal phalanx.

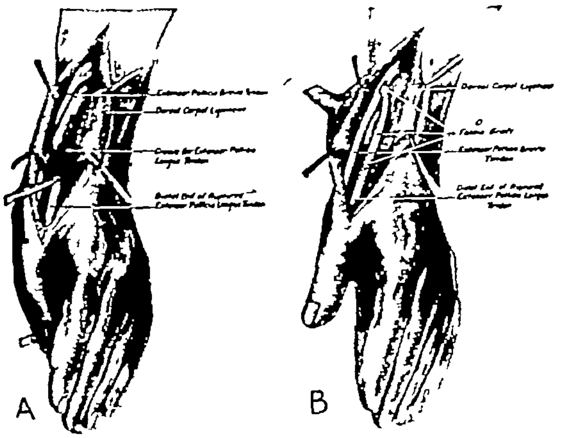

Fig 11 (case 3)—Left hand *A* compartment for tendon opened Radial groove is smooth. Proximal portion of tendon could not be identified. *B* distal end of tendon sutured to extensor pollicis brevis tendon by a graft of preserved ox fascia Oblique pull retained by placing graft in radial groove.

SUMMARY

1 Late subcutaneous rupture of the extensor pollicis longus tendon is an infrequent, but not rare, complication of Colles' fracture It is apparently unpreventable, and the exact mechanism is not fully understood Diagnosis is not difficult Unless treated properly, there will be considerable dysfunction of the thumb Treatment is surgical and results on the whole are satisfactory Various operative procedures may be employed When end to end suture of the ruptured tendon was not possible I have used a graft of dead ox fascia The fascia should be rinsed in sterile sodium chloride solution and then soaked in another receptacle of the same solution for at least one hour in order to prevent any undue reaction from the fixative agent

1208 Eutaw Place

ABSTRACT OF DISCUSSION

DR. HENRY F ULLRICH Baltimore I should like to congratulate Dr Weinberg on his clear thorough and direct presentation of this unusual complication of Colles fracture Colles' fracture will always be common in human beings because we will always fall to the ground for various reasons I wonder if Colles in 1814 when he described this fracture entity that bears his name, knew that it would have such far-reaching importance as it has today This complication again emphasizes the apparent fact that soft tissue damage is of the utmost importance and that we should keep in mind the soft tissues in addition to bony structures even more after the fracture has been reduced than prior to reduction. Dr Weinberg's cases did not show bony deformity as the prominent feature I personally have *not seen this complication or recognized it as such* but have seen as all of us have, traumatic synovitis of varying degree, which results in interference with function of the thumb after reduction and especially in the wrist fractures in which there is a moderate or severe degree of swelling after reduction and application of the cast. These have responded well to active exercises and other physiotherapeutic measures and required no operative treatment. I hope to reevaluate the wrist fractures at our clinic and suspect several late ruptures can be found in persons getting along with limitation of function who have not sought further treatment. It is interesting to note that many of these spontaneous ruptures occur between four and six weeks after fracture, which roughly correspond *to the time that the cast is removed and the institution of* normal function with little restriction is commenced It would seem that at this stage the tendons have little strength and we should keep this in mind and prevent recurrence of this as well as other complications

DR. HERBERT C FETT Brooklyn Dr Weinberg's excellent presentation stimulated me to work out in my own mind how this interesting clinical entity could best be explained Theoretically it has been felt that the condition has been the result of a partial tear from a sharp bone fragment or some interference with the circulation of a tendon It was also felt that it might be due to fraying of the tendon by friction over the ridge of bone which is frequently left across the dorsum of the radius at the site of the fracture I should like to ask Dr Weinberg what he would think of the possibility of trauma to the tendon during the course of manipulative reduction To my mind it is possible that this could be traumatized and result in subsequent spontaneous rupture I can also easily visualize damage to the tendon in an incomplete reduction in which active motion of the thumb has been encouraged. As to treatment it was noted in studying the anatomy involving the extensor pollicis longus that the muscular tendinous junction came down considerably toward the wrist joint which as I stated before, interferes to some extent with the lengthening process End to end suture is very difficult in this type of case because of the marked fraying of the tendon The proximity of the extensor carpi radialis apparatus to the distal end of the ruptured tendon recommends suture of the distal end of the pollicis tendon to this tendon.

DR. EDWIN DAVID WEINBERG Baltimore I want to thank Dr Ullrich and Dr Fett for their remarks It is possible to injure this tendon while reducing the fracture. A sharp bone fragment may cause a partial laceration of the tendon resulting in eventual rupture. In many cases there has been neither manipulation nor immobilization as some of the fractures were incomplete and, in some instances insignificant In regard to *operative procedure no one has had sufficient* experience to determine positively the best method of repair

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14 Porsch A Ueber die typischen Speichenbruche, Beitr z. klin Chir **134**: 53 1925

15 Oppolzer R R Von Spontanrupturen der Extensor pollicis Sehne (Freie Vereinigung der Chirurgen Wiens—Offizieller Bericht) Zentralbl. f Chir **61** 587 1934

16 Horowitz A Die subcutane Spatruptur der Sehne des Extensor Pollicis Longus nach Radiusfraktur und anderon Knochenveranderungen *in der nahe der Rissstelle, Deutsche Ztschr f Chir* **234** *710 1931*

17 Lülsdorf F Spatruptur der Sehne des Extensor Pollicis Longus Ztschr f orthop Chir **51** 191 1929

Clinical Notes, Suggestions and New Instruments

USE OF TANTALUM MESH TO REPAIR A LARGE SURGICAL DEFECT IN THE ANTERIOR ABDOMINAL WALL

R A BUSSABARGER, M D
M L DUMOUCHEL, M D
and
WILLIAM H IVY, M D
Raymond Wash

Since Koontz[1] made his preliminary report on the use of tantalum mesh in the repair of *ventral hernias,* we have had occasion to use this material *in the repair* of 5 large ventral incisional hernias The results in 4 cases *were excellent* The fifth patient had five *operations prior to repair* with tantalum There were several minor postoperative complications caused by cotton sutures and the avascularity *of the skin as the result* of the five *previous* operations, but the patient has had no recurrence of his ventral hernia

It *is now our* policy to have a tantalum screen available for use in our operating room at all times This *policy* enabled us to attempt a "Brunschwigian" resection rather than a palliative enterocolostomy in a case of adenocarcinoma of the cecum with extensive involvement of the anterior abdominal wall In order to eradicate the invaded tissue it was necessary to resect the entire right lower half of the anterior abdominal wall, an elliptic area *7½* inches *(19 cm)* in width by 6 inches (15 cm) in length This defect was closed with the aid of a tantalum mesh screen 3½ inches (9 cm) in width by 5 inches (13 cm) in length

REPORT OF CASE

History—F M, a white *man* aged 60, was admitted to the New Riverview Hospital June 6, 1949 for relief of an intestinal obstruction caused by an advanced *carcinoma* of a double-barreled ileocecostomy protruding through a large ulcerated mass of tumor tissue invading and replacing his right lower abdominal wall He complained of nausea abdominal cramping, vomiting, extreme weakness and continuous foul, purulent *drainage from the abscessed* tumor tissue around his colostomy No fecal matter had passed from his anus since the ileocolostomy done elsewhere May 2, 1948 for relief of intestinal obstruction For a month after operation little fecal matter passed through his colostomy Passage of fecal matter was associated with severe abdominal cramps

Physical Examination—The patient was pale and emaciated, weighing about 95 pounds (43 1 Kg) (usual weight 147 pounds, 66 7 Kg) Emaciation and generalized weakness was pronounced The abdomen was *distended,* with tympanites and borborygmi The temperature was 99 6 F, the pulse rate 98 and the blood pressure 100 systolic and 70 diastolic

Laboratory Data—The urine was normal Examination of the blood showed 3,160,000 red blood cells, 8 Gm hemoglobin color index 0 9 and 15,750 white blood cells with 92 per cent polymorphonuclear leukocytes The roentgenogram of the chest *was negative* The blood was type O, Rh-negative

Diagnosis—Tentative diagnoses were (1) carcinoma of the cecum with contiguous *involvement of* the anterior abdominal wall, secondarily infected, with abscess formation and (2) incomplete intestinal obstruction

The patient stated that the physicians attending him prior to this admission had advised him that he had a cancer of the large bowel that was *too* far advanced to be completely removed His *main concern* was relief from his abdominal cramps and *colostomy* He further stated that if he could have three months of life free from intestinal cramps and the foul draining *colostomy* he would be satisfied with the surgical result

Operative Data—The patient was prepared for surgical intervention with blood transfusions, phthalylsulfathiazole (sulfathalidine®) and other *supportive* measures On June 14, *1949 continuous* gastric suction was instituted prior to operation Fractional spinal anesthesia was begun, and blood transfusions were started An upper abdominal transverse incision was *made* The small bowel immediately herniated through the incision It was difficult to recognize because of the decided increase in the *diameter and* thickness of its wall It was greatly distended with gas and liquid fecal matter

Exploration revealed a smooth liver of normal appearance without evidence of metastasis or tumor extension The gallbladder, duodenum, pancreas and stomach were normal The colon beyond the cecum was collapsed and threadlike, the terminal ileum and cecum were *matted* together and fixed to the anterior abdominal wall in a tumor *mass which did not* extend intra-abdominally beyond its peritoneal covering Several large glands were noted at the hilus of the mesentery of the *ileum*

The terminal *ileum,* tumor mass and invaded abdomen, ascending colon and right half of the transverse colon were resected en *masse, and* an end to end ileocolostomy was performed The line of excision began superiorly at the level of the transverse incision above the umbilicus, medially along the *medial border of the left* rectus muscle to the pubic bone, inferiorly across the inguinal ligament to the crest of the ilium and laterally from the crest of *the ilium* to a point just below the end of the twelfth rib The left abdominal wall was pulled to the right 3 inches (7 6 cm) without undue tension, and approximately two thirds of the transverse incision was closed The peritoneum remaining in the right lower quadrant was eventually closed by following lines of least tension All fascial edges that could be approximated to make the defect smaller were sutured with chr*omic* 1 *The remaining* large defect of lost fascia and muscle, measuring 3½ by 5 inches (9 by 13 cm), was closed with a single layer of tantalum gauze The infolded edges of the gauze were sutured to the fascial edges with interrupted cotton 20 A large space between the *peritoneal* closure and the tantalum screen was noticed

Skin closure was carried out with cotton 20 There was insufficient skin to cover the tantalum screen, so an area 3 by 4 inches (7 6 by 10 cm) was left exposed Long sutures were used to prevent the skin edges surrounding the defect from *retracting Sterile pressure* dressings were applied to the entire abdomen

The patient's immediate postoperative condition appeared the same as that preoperatively During the five hour surgical session 1,500 cc of whole blood had been administered

Pathology Report[2]—Macroscopic The *specimen consisted* of a mass of tissue which included the skin, subcutaneous tissue, *anterior* abdominal wall and segments of large bowel The large mass of tissue was covered on one surface by an *elliptically* shaped piece of skin 17 by 11 cm In the center of this area protruded the colostomy opening The opening was irregularly oval, 5 by 3 cm, and apparently was functioning The edge of the colostomy was ulcerated and apparently made up of tumor tissue The mass of tumor tissue had thickened the abdominal wall and comprised the bulk of the remaining mass, which measured 12 by 12 by 7 cm On cut surface the tumor was *necrotic* and was a mottled, grayish yellow The tumor in its manner of growth *in* the abdominal wall appeared to have replaced the muscle and fascial tissues and did not show definite invasiveness

There was tumor in both segments of bowel removed with the piece of tissue, and it seemed probable that, as was described by the surgeon, the colostomy was made *through the area of* cancerous growth The small intestine was not definitely identified grossly

Microscopic The sections of tumor in the abdominal wall appeared to be adequately removed All sections made of the tumor mass were essentially alike The mass consisted of large, atypical glands lined by anaplastic, columnar epithelium and supported by fibrous tissue *stroma* These columnar cells varied greatly in size The nuclei were hyperchromatic, and mitoses were present Some glands were greatly distended by mucin There was a heavy diffuse exudate of polymorphonuclear, lymphocytic and plasma cells in nearly all areas Necrosis was noted in some areas The lymph nodes showed hyperplasia and contained cellular debris

Diagnosis The diagnosis was adenocarcinoma, grade 2, secondarily infected, with chronic exudative lymphadenitis

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[1] Koontz A R Preliminary Report on the Use of Tantalum Mesh in the *Repair* of Ventral *Hernias* Ann Surg **127** 1079 (May) 1948

[2] The report on tissue was prepared by Charles P Larson M D C M pathologist Tacoma General Hospital

Postoperative Course—Convalescence was rapid By the first postoperative day, the peritoneum had stretched so that it was flush with the screen Copious quantities of ascitic fluid necessitated several dressing reinforcements Intestines floating in ascitic fluid could be seen through the screen On the second day there was less drainage Gastric suction was discontinued and oral feedings begun On the third day the bowels moved spontaneously Serous drainage was moderate On the fifth day the weight of the patient was 95 pounds (43 Kg), and he was up in the chair Foot drop due to his prolonged stay in bed was noticed for the first time His appetite was good The abdomen was soft, with normal peristaltic sounds The intestines were less distended and edematous By the tenth day he was walking with assistance

Secondary Closure—On the fourteenth day, with the patient under spinal anesthesia the skin flaps were dissected free over the entire abdomen and sutured over the screen without apparent undue tension No relaxing incisions were made This proved to be a mistake in judgment as subsequent events proved At this operation it was noted that fibrous tissue was growing firmly into the screen from the skin edges The skin over the screen was firmly adherent to it and was dissected free with difficulty

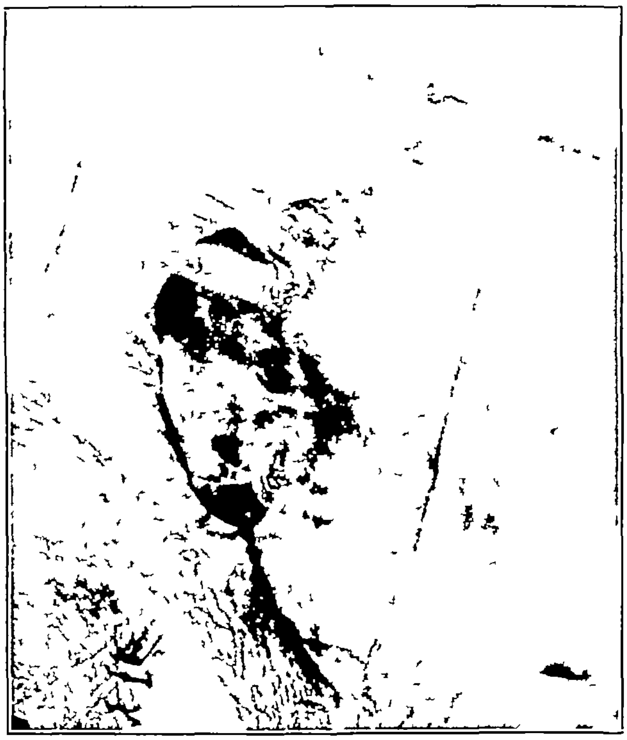

Fig 1 —Close up of abdominal wall from right side one month after operation Edge of screen is marked in ink Transverse incision is 5½ inches (14 cm) in length

Subsequent Treatment and Course—Twelve days after this secondary closure, dehiscence occurred and the skin edges retracted to the position they occupied prior to the secondary closure (fig 1) The remainder of the patient s stay in the hospital was occupied with various procedures utilized in attempting to get skin over the tantalum screen (fig 2) A full-thickness pedicle graft raised from his right thigh and sewed back, became gangrenous in its distal half and had to be abandoned The screen was eventually covered by tunneling the lateral skin making a relaxing incision and moving the skin bridge over the screen Later split-thickness grafts were used to cover the resulting raw surfaces

On August 19 1949 the sixty-sixth postoperative day the patient was discharged His weight was 110 pounds (50 Kg) (figs 3 and 4) An area of screen about ¾ inch (1 9 cm) in diameter remained exposed because of sloughing of the full-thickness graft over the upper right hand corner of the screen however granulation tissue was growing into the screen from the skin edges and it was believed that this area would heal spontaneously On September 6 the screen was completely covered The patient weighed 115 pounds (52 1 Kg) On October 17 he weighed 125 pounds (56 7 Kg) and was feeling fine.

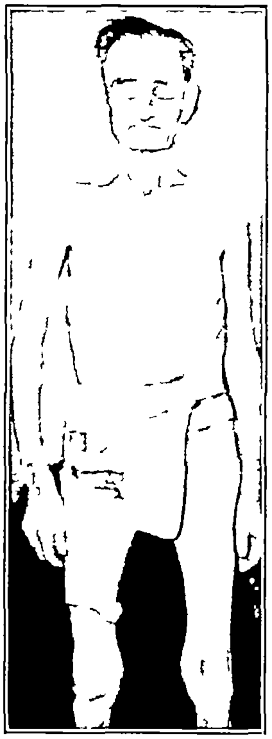

Fig 2

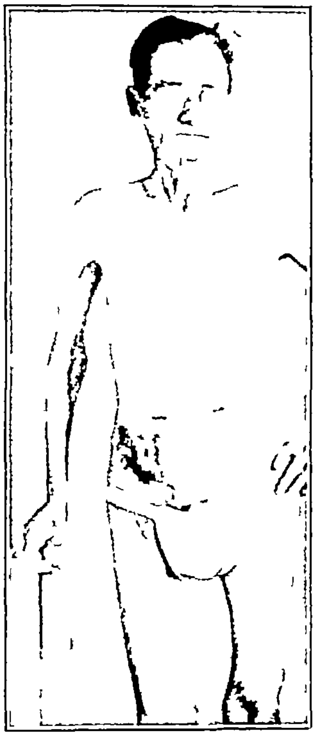

Fig 3

Fig 2 —One month after operation weight 100 pounds (45 4 Kg)
Fig 3 —Two months after operation weight 110 pounds (49 9 Kg)

In retrospect it is believed that complete primary closure of the abdomen with skin would have been accomplished in this patient if undercutting of skin flaps and relaxing incisions had been performed at his first operation

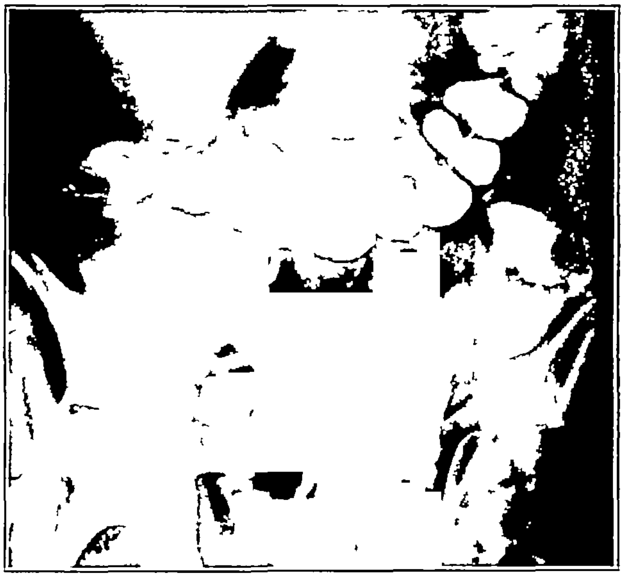

Fig 4 —Roentgenogram of colon two months after operation showing screen and anastomosis

CONCLUSION

Tantalum mesh may be used in the repair of large surgical defects of the full thickness of abdominal wall

SUCCESSFUL REMOVAL OF A TUMOR EMBOLUS FROM THE FEMORAL ARTERY

LESTER BLUM, M D
New York

It is a characteristic of malignant disease that tumor emboli are of microscopic size The rarity of massive neoplastic embolism has been emphasized by Till and Fairburn,[1] who recently described a fatal case of femoral artery obstruction with terminal gangrene They stated that few such instances could be found in the literature In 1940 Groth[2] reported the first successful removal of a malignant embolus from the femoral artery of a woman aged 37, who died one month later of disseminated sarcomatosis The tumor process which originated in the other inferior extremity gained access to the left side of the circulation by pulmonary metastasis

The case reported herein is the second recorded instance of successful removal of a malignant arterial embolus Its interest is more than statistical, because the patient survived the operative procedure three months, at which time autopsy made clear the pathogenesis and afforded the rare opportunity of examining the site of arteriotomy

REPORT OF CASE

J E, a man aged 60, a Greek restaurant worker, was admitted to the Beekman-Downtown Hospital Dec 11, 1947 He complained of an unproductive cough of three months' duration associated with a weight loss of 15 pounds (6 8 Kg) Physical examination revealed essentially normal conditions except for flatness to percussion over the right side of the chest posteriorly where the breath sounds were diminished as well Bronchoscopy revealed an irregular, friable 1 cm mass located on the anteromesial wall of the right main bronchus A few days thereafter, while awaiting the biopsy report, there was a sudden onset of severe epigastric pain and the patient went into a state of profound shock The electrocardiographic tracing was normal, and, as the abdominal signs increased, an exploratory laparotomy was decided on Abdominal tap in both lower quadrants resulted in the aspiration of serosanguineous fluid Operation disclosed a peritoneal cavity full of blood from a spontaneous rupture of the spleen, which was removed Neither at operation nor subsequent autopsy was the reason for this disclosed Except for one episode of pulmonary edema and an infection in the upper angle of the wound, the patient did well postoperatively The biopsy report was positive for bronchogenic carcinoma

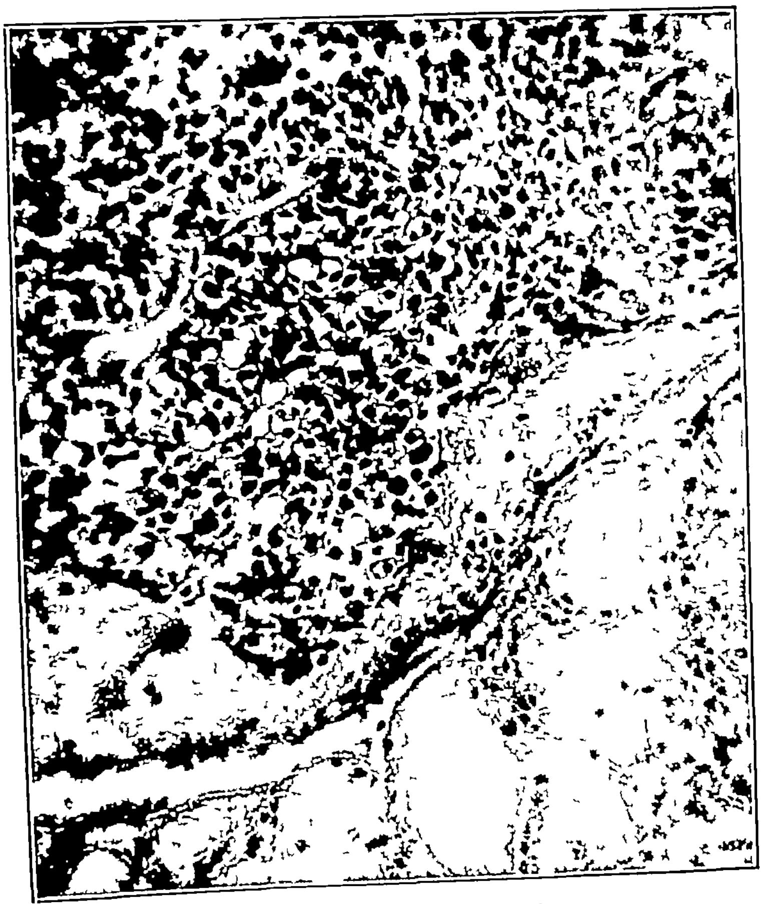
Fig 1 —Section of tumor embolus

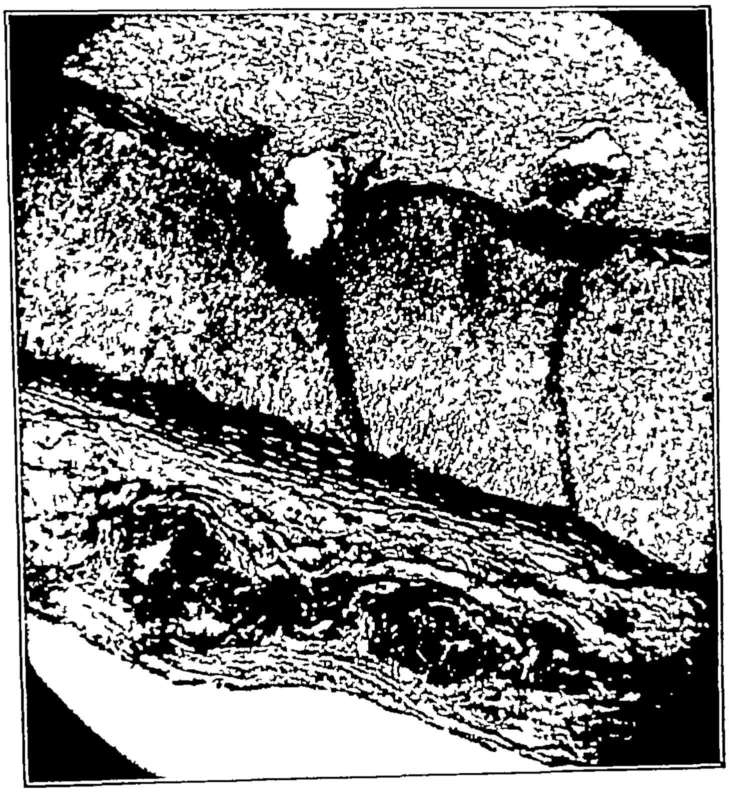
Fig 2 —Section of femoral artery wall through site of arteriotomy (elastic tissue stain)

His convalescence was dramatically interrupted one morning (Feb 7, 1948) by the sudden onset of severe pain in the left leg, especially in the popliteal region The pain persisted became burning in nature and was accompanied with numbness of the foot and leg with complete loss of sensation Examination disclosed a pallor of the left inferior extremity, which was cold below the midthigh region The left external iliac artery could be palpated just above the inguinal ligament, but there were no pulsations below this point

One member of the surgical staff suggested the correct diagnosis He reasoned that, with a known carcinoma of the lung in the absence of evident cardiovascular disease, a tumor embolus was a logical possibility

The operation was begun within two hours Since it was believed that an embolus was lodged at the origin of the profunda femoris branch, a linear incision was made in the femoral triangle directly over the vessels These were exposed, and the vein was separated from the femoral artery This latter vessel was empty, pulseless and evidently in spasm A fine rubber catheter was passed about it just below the profunda branch A linear incision 2 cm long was then made at this site into the vessel wall The lumen was empty, with no evident propagated thrombus A rubber suction tube was then passed proximally without result A metal catheter was then similarly employed, with a resultant gush of 500 cc of blood into the suction bottle It was then evident that the blood flow had been fully restored and the obstruction removed The rubber tourniquet about the artery was tightened, and 50 mg of heparin was introduced peripherally The wound in the vessel wall was repaired with one layer of continuous 0000 silk The tourniquet was removed, and thereafter the artery pulsated normally The skin edges were apposed with silk sutures

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From the Surgical Service of the Beekman Downtown Hospital

[1] Till A S, and Fairburn E A Massive Neoplastic Embolism Brit J Surg **35** 86 (July) 1947

[2] Groth, K E Tumor Embolism of Common Femoral Artery Treated by Embolectomy and Heparin Surgery **8** 617 (Oct) 1940

The embolus was found in the midst of the blood clot in the suction bottle It consisted of a 2 inch (5 cm) square segment of crepitant organized tissue. On section it showed anaplastic cells resembling the palisading oat-shaped forms characteristic of the biopsy from the bronchus The differentiation was poor and the cell growth was unrestricted, with a minimum of supporting stroma. Not all of the cells seemed viable (fig 1)

The patient did well postoperatively On the next morning the foot was warm to the toes and ½ grain (0 03 Gm) of papaverine injected intra-arterially just above the inguinal ligament resulted in a blush of the entire extremity with a subjective sensation of warmth There was a decided hypersensitivity of the foot and leg An anticoagulant regimen of heparin and dicumarol® was instituted By the fourth day the patient was walking about in a sterile sock. By the fifth day the dorsalis pedis pulse had been restored On the fourteenth day, the patient was transferred to another institution for further investigation One month later he was readmitted because of a febrile episode. His condition was deemed inoperable, and finally on April 11, 1948, two months after the embolectomy, he was readmitted in a moribund condition

Autopsy performed by Dr Gregory N Brown revealed these salient points (1) the presence of a bronchogenic carcinoma of the right main bronchus which had destroyed the right lung, (2) erosion of the ninth and tenth ribs on the right by tumor pressure, (3) metastasis to the regional lymph nodes, (4) a free tumor embolus in the left atrium, and (5) complete healing at the site of left femoral arteriotomy without evidence of constriction and regeneration of the intima without evident scar Microscopically, the only evidence of repair was some heaping up of the subendothelial cells Elastic tissue stain showed complete restitution of the architecture of the vessel wall despite the retained silk (figs 1 and 2)

COMMENT

Aside from its rarity, this case demonstrates the completeness of recovery that can follow a promptly performed embolectomy The absence of a propagated thrombus was significant in this respect and was probably related to the shortness of the interval between the lodgment of the embolus and its removal The anatomic restitution of the vessel wall at the site of arteriotomy was to be expected in the absence of infection or arterial disease.

The treatment of obturation of the major arteries of the extremities is complex Its usual occurrence as a late complication of chronic cardiovascular disease has encouraged a conservative attitude Emphasis is placed on the poor general prognosis, and a result short of massive gangrene is considered satisfactory

It is granted that embolic arterial occlusion in the superior extremity characteristically runs a benign course The obstruction usually occurs in the brachial artery at the profunda branch or just above the elbow There is no loss of function, and the transient pallor and numbness of the hand disappear in a few days Where tissue death ensues, the case is likely to be one of multiple, repeated embolization in a moribund patient

There are, however, cases of arterial occlusion in the inferior extremities of comparatively young patients with rheumatic or coronary artery disease When the physical signs in the foot and leg are conclusive and massive tissue death seems probable, the weight of responsibility rests on the advocate of nonsurgical measures The high incidence of incomplete or small vessel embolization in the inferior extremity with minimal signs and prompt response to the popular anticoagulation regimen has led to the adoption of a conservative attitude in all cases It is not customary to publish unfavorable results and amputations following a nonoperative policy are accepted as inevitable.

In a patient whose general condition is not bad and whose inferior extremity shows the signs of complete femoral or popliteal artery embolism with loss of sensation loss of toe movement, blotchy pallor, coldness and absent oscillations the treatment should be surgical and promptly so The amount of time actually elapsing between the occurrence and removal of the embolus is a major factor in the outcome.

SUMMARY

The second recorded instance of successful removal of a malignant embolus of the femoral artery is reported A plea is made for the prompt operative care of patients with embolic occlusion of the femoral and popliteal arteries

910 Park Avenue.

CONGENITAL ABSENCE OF THE VAGINA WITH ACCOMPANYING SOLITARY PELVIC KIDNEY

Case Report

WALTER A KEITZER M D
and
EDWIN A. RIEMENSCHNEIDER M D
Akron Ohio

The comparative rarity of solitary pelvic (ectopic) kidney warrants the reporting of each case. A total of 44 cases have been described in the literature to date The latest reports are those of Nalle, Crowell and Lynch[1] and Cokely and Webster[2] Included among these 44 patients are many with an associated genital anomaly and, more particularly 11 showing congenital absence of the vagina in combination with solitary pelvic kidney

The present report is not being undertaken solely because of the rarity of the findings Because of the ever increasing popularity and successful performance of surgical procedures resulting in a functional vagina these are often undertaken without preoperative study of the urinary tract. The close embryologic associations of the genital and urinary systems predict the appearance of combinations of aberrations

Roentgenogram showing small kidney normal calices and well outlined pelvis

A majority of the reports which stress the close relationship of solitary pelvic kidney and some cases of vaginal aplasia appear in the urologic literature They are thus not usually presented to the surgical group who undoubtedly attempt the majority of the plastic operations on patients showing congenital absence of the vagina As noted by Nalle and others[1]

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[1] Nalle B C. Jr Crowell J A and Lynch R M Jr Solitary Pelvic Kidney with Vaginal Aplasia J Urol 61 862 1949

[2] Cokely H J and Webster R N Solitary Pelvic Ectopic Kidney U S Nav M Bull 49 353 1949

"In the absence of vagina and uterus, a pelvic kidney can easily be mistaken for the uterus and unnecessary or dangerous procedures attempted" This statement is especially true when a solitary pelvic kidney is involved

CASE REPORT

Mrs E S, a 28 year old housewife, was first seen in August 1948, complaining of dyspareunia, complete absence of the menses recurrent pain in the breast and the lower abdominal area and heaviness appearing at approximately twenty-eight day intervals Libido was normal, and she had been married three years In 1945 she had consulted another physician, who had utilized the Wharton technic to enlarge a small dimple occupying the usual position of the vagina into a blind pouch approximately 1½ inches (3 8 cm) in length

The patient's history was otherwise apparently normal Physical examination revealed a well developed and well nourished white woman She presented normally developed secondary sex characteristics well developed breasts and female hair *distribution* The *external genitalia* were normally constituted and the position of the vagina was occupied by a short blind pouch On bimanual examination a rather large solid mass was palpated just beyond the end of the pouch

Urologic examination revealed a normal urine The urethra was normal in caliber A no 24 French panendoscope was inserted into the bladder without difficulty There was absence of the left half of the trigone and a considerable amount of granulation in the neck of the bladder and over the right portion of the trigone A no 5 ureteral catheter was placed in the right ureter, where an obstruction was met at a distance of about 10 cm There was no residual urine from the right kidney The urine from the right ureter was normal on analysis Retrograde pyelograms were made, a moderate amount of pain being produced with the *injection* of 5 cc of sodium iodomethamate (neo-iopax solution®) The pyelograms showed no evidence of stones The kidney was somewhat small, the calices were *normal in appearance* and the pelvis fairly well outlined (figure) The diagnosis was solitary, ectopic, pelvic kidney with absence of the left trigone Intravenous pyelograms confirmed this diagnosis

It was felt that the further use of surgical measures in this case was contraindicated by the findings The vaginal pouch has been enlarged and the dyspareunia lessened by the use of repeated vaginal packs

SUMMARY

1 A case of congenital absence of the vagina with accompanying single solitary pelvic kidney is reported This brings the reported cases of this combination of anomalies to 12 and the cases of solitary pelvic kidney to 44

2 The performance of an operation to create an artificial vagina should be preceded by a thorough study of the genitourinary tract to rule out the presence of any complicating anomalies

612 Second National Building
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SPONTANEOUS SUBARACHNOID HEMORRHAGE

Present Status of Diagnosis and Surgical Treatment

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Akron, Ohio

Rapid strides have been made in arteriography and the surgical therapy of subarachnoid hemorrhage due to rupture of intracranial vascular anomalies Although publications describing these procedures are abundant,[1] they are undoubtedly unfamiliar to many who are the first and often the only persons bearing the responsibility for treating patients with signs and symptoms of spontaneous subarachnoid hemorrhage. The case herein described is typical and serves to illustrate an acceptable method of handling these lesions

REPORT OF A CASE

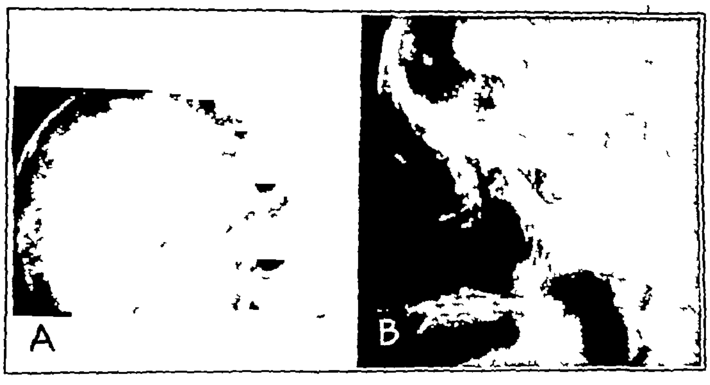
The patient was a 43 year old nurse, actively engaged in her profession She denied any symptoms referable to the head previous to April 18 1949 On this date she experienced a sudden, severe right frontal headache and stiffness of the neck

Examination—Examination a few hours after the onset of the headache revealed that the patient had excruciating right frontal pain There was some cervical rigidity and a positive reaction to Kernig's test There were no positive neurologic signs to aid in lateralizing or localizing the lesion

A spinal puncture made on admission revealed grossly bloody cerebrospinal fluid Other laboratory tests were noncontributory

A Matas' test was made by digital compression of the right carotid artery in the neck for ten minutes After a few seconds of occlusion the patient was almost completely relieved of her headache After ten minutes of compression there were no signs of cerebral ischemia Immediately on release of the digital pressure there was a recurrence of the right frontal headache This procedure was repeated several times, and each time relief of headache was obtained Compression of the left carotid artery had no appreciable effect on the headache This observation was regarded as a lateralizing sign and as an indication that occlusion of the carotid artery in the neck relieved pulse pressure on the aneurysm to some degree.

Operation—On April 20, with thiopental sodium and local anesthesia, the right common carotid artery was exposed and an arteriogram was made, with 35 per cent iodopyracet injection This showed a saccular aneurysm involving the right anterior cerebral artery (figure, *A*) The right common carotid artery was then occluded with a large tantalum clip, and the patient was allowed to awaken from her light thiopental sodium anesthesia with the artery exposed After an interval of twenty minutes she was able to move the contralateral leg and arm well The wound in the neck was then closed The postoperative course was uneventful She had mild right frontal headache on sitting up and slight vertigo on change of posture



A cerebral arteriogram showing aneurysm (arrow) *B* roentgenogram showing clips *occluding neck of aneurysm*

On April 29 a right transfrontal exploration of the circle of Willis was performed Preoperative preparation included insertion of a spinal puncture needle and continuous spinal fluid drainage during the procedure Two complete suction apparatuses were made available Special silver clips, about 1 mm larger than those routinely supplied, were prepared Local and light thiopental sodium anesthesia was used On exposure of the right anterior cerebral artery, the aneurysm was encountered and was found to be communicating with the anterior cerebral artery by a small neck just distal to the *anterior communicating* artery The size of the aneurysm was estimated to be approximately one-half the size indicated by arteriographic examination This decrease in size was presumably due to decrease of intra-arterial pressure following occlusion of the common carotid artery in the neck nine days previously As the vertex of the sac was being dissected away from the arachnoid of the cisterna chiasmatis, a well formed clot was seen protruding through the wall of the sac This clot was inadvertently brushed with the sucker Sudden expulsion of the clot and profuse hemorrhage ensued There was excellent visualization of the sac and its neck, in spite of the continuing hemorrhage A long silver clip which was intended for the neck of the sac was inadvertently applied first to the vertex of the sac. This resulted in a tear and an even more profuse hemorrhage. A second clip was applied directly across the neck of the sac (figure, *B*). Immediately all bleeding completely subsided. A piece of gelfoam® (absorbable gelatin sponge) was placed within the sac through the tear. The anterior cerebral artery was not occluded. The craniotomy was closed in a routine manner.

---

[1] (*a*) Dandy, W E Intracranial Arterial Aneurysms Ithaca, N Y,
Comstock Publishing Company, Inc, 1944 (*b*) Pilcher, C Angiomatous
Malformation of the Brain, Ann Surgery **123** 766, 1946 Raney R,
Raney A, and Sanchez Perez J M Role of Complete Cerebral Angi
ography in Neurosurgery, J Neurosurg **6** 222 1949 Schwartz H G
Arterial Aneurysm of the Posterior Fossa J Neurosurg **5** 312, 1948

Course.—The postoperative course was uneventful. There was no evidence of cerebral ischemia or of impingement on the optic nerves or chiasm.

The patient was last seen on October 8 and was symptom free and again actively engaged in nursing.

COMMENT

The over-all mortality among patients with spontaneous subarachnoid hemorrhage due to rupture of an aneurysm approached 100 per cent with therapy available prior to the advent of surgical intervention. When this condition is treated surgically, the over-all mortality rate is 25 per cent[1a] to 36 per cent. There is thus no justification for one's withholding operation from these patients unless one feels with certainty that the general condition of a given patient would preclude survival or that ligation procedures would result in hemiplegia.

The value of ligation of the carotid artery in the neck is debatable. It is my feeling that this case substantiates Sweet's observations.[2] In his experimental animals there was a decrease in pulse pressure of 25 per cent and a decrease in systolic presure of 50 per cent in the internal carotid artery distal to ligation in the neck, and he postulated a corresponding, though possibly less pronounced, fall of pressure in the vessels of the circle of Willis. Some relief of pulse pressure on this aneurysm resulted from neck ligation alone as manifested by the relief of headaches and bleeding and the decrease in the size of the aneurysm sac following this procedure. Since this relief occurred with such a peripherally placed aneurysm (anterior cerebral artery distal to the anterior communicating artery), one might expect an even greater benefit to be derived from carotid artery ligation in the neck in those more proximally placed aneurysms (internal carotid artery proximal to or near its bifurcation). It is also noteworthy that in this case the aneurysm was inadvertently ruptured during its exposure. If Sweet's observations apply, one might reason that this case might have terminated in death at operation had the carotid artery not been occluded in the neck. Suction permitted keeping up with the rate of blood flow sufficiently to allow the operator enough visualization to apply a hemostatic clip to the neck of the aneurysm sac. It is the opinion of most neurosurgeons, however, that any benefit derived from ligation of the carotid artery in the neck will be a transient one and that, when feasible, the lesion should be attacked directly.

The proper time for arteriographic examination following subarachnoid hemorrhage is also debatable. There is a plan now to organize a central society which would compile information about aneurysms, so that individual experiences could be pooled and more accurate conclusions drawn. Undoubtedly there will soon be satisfactory information, and even more effective methods will be adopted as a result of these activities.

SUMMARY

A case of spontaneous subarachnoid hemorrhage due to rupture of a congenital aneurysm is described in detail. Although not unique, the case illustrates what may be accomplished when patients with these lesions are treated surgically at the proper time. Skilful watchful procrastination may still be useful in determining the proper time to instigate surgical procedures. Fortunately, however, the advent of cerebral arteriography and newer neurosurgical technics have antiquated symptomatic treatment per se and have considerably changed the prognosis in these cases.

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[2] Sweet, W. N., and Bennett, H. S.: Changes in Internal Carotid Pressure During Carotid and Jugular Occlusion and Their Clinical Significance, J. Neurosurg. 5: 178, 1948.

Council on Pharmacy and Chemistry

REPORT OF THE COUNCIL

The Council has authorized publication of the following report.
R. T. STORMONT, M.D., *Secretary.*

COMMITTEE ON PESTICIDES

The Council on Pharmacy and Chemistry recently authorized the formation of a Committee on Pesticides to study the health problems associated with the use of insecticides, fungicides, rodenticides, herbicides and other types of economic poisons. This action was a natural outgrowth of the Council's interest in toxicologic problems.

The necessity for long range positive action in the field of economic poisons has been apparent for some time. The Council office for several years has devoted considerable attention to the collection of information and the consideration of problems associated with pesticides. In conjunction with other scientific groups within the Association the Council has offered its assistance to government agencies, industrial concerns and private interests. This assistance frequently consisted merely of information concerning medical problems which arose from the increasing use of pesticidal chemicals. In other instances, however, the Council collaborated directly in efforts which were in the public interest. Examples of such collaborative efforts are the Conference on Health Hazards of Pesticides held at American Medical Association headquarters Nov. 3, 1948 and the exploratory meeting of the Committee on Pesticides Oct. 26, 1949, both sponsored jointly with the Council on Foods and Nutrition.

It was apparent from these meetings that much has yet to be learned about the uses and limitations of pesticides. It was equally apparent, however, that it is necessary to integrate the existent information so that it may become available to physicians and others. To fill this gap and to provide this service, the Committee on Pesticides has been projected.

The Committee will promote the coordination of medical activities concerned with pesticides and offer guidance to physicians and other practitioners of the medical sciences in the many difficulties which these agents present. To implement these aims, the following projects will be undertaken initially:

1. *Promote Safe Standards for Use*.—The development of safety standards is one of the most urgent problems surrounding the use of pesticides. New methods and new fields of application, and more frequent use by untrained persons have increased the need for definition of the immediate and long term hazards to those who work with pesticides or consume products to which they have been applied. Unfortunately no general rules will cover every contingency of individual use, safety standards therefore have to be adapted to each particular use and pesticide formulation. The patterns for the safe handling of many of these materials have been outlined in experimental work and in experience with related compounds in other fields. The Committee will publicize and promote the application of these observations.

2. *Foster the Development of Antidotal Measures*.—The accumulated knowledge of the entomologic efficiency of pesticides far outweighs the data on toxicity. Specific antidotal and treatment measures for many of the newer economic poisons are sorely needed and increased emphasis on this phase of product development is required. The various scientific groups of the American Medical Association have had considerable experience with similar problems in other fields. Their knowledge and facilities will be available through the Committee to all groups interested in this subject.

3. *Stimulate Voluntary Control*.—Before resort to other measures the many possibilities of voluntary regulation should be studied and exhausted. The effectiveness of this type of control is largely determined by the cooperation of all groups in the common task. The Committee will bring health problems to the attention of industry, suggest possible methods for their solution and lend its resources to similar undertakings which are in the public interest.

4 *Assist in the Standardization of Nomenclature*—The profusion of trade names, initials and numbers for pesticides contributes to misuse and errors in the handling of these preparations The coming of common or generic names for pesticides is a recent and commendable innovation in this field The many years' experience of the Council on Pharmacy and Chemistry in the development of generic names for drugs is at the disposal of the Committee in the parallel problem of nomenclature of pesticides

5 *Accumulate and Evaluate New Information*—A number of groups representing widely diversified interests have proposed to undertake a compilation of the available toxicologic data on pesticides It is the intention of the Committee not to supplant these efforts but rather to integrate and supplement the work of others in areas in which the Committee is best equipped to conduct studies The organizational difficulties involved in the compilation, integration and appraisal of existent information are of such magnitude and importance that the combined efforts of all groups are required to solve them

6 *Undertake an Intensive Educational Program*—Information on the usefulness and limitations of pesticidal agents will be disseminated initially to those audiences most accessible to the Committee The educational facilities of the American Medical Association, consisting of ten professional journals, the lay publication *Today's Health*, the Bureaus of Health Education and Exhibits and those outside publication sources which follow the Association's leadership in health matters will be available to the Committee The Committee will seek the active cooperation and assistance of all branches of science and industry in this and other aspects of its program In turn, the assistance of the Committee will be available to all

The members of the Committee are

HERBERT K ABRAMS M D Chief Bureau of Adult Health, California Department of Public Health Berkeley Calif

E M K GEILING M D Professor of Pharmacology, University of Chicago Chicago

ALBERT HARTZELL Ph D Head Entomologist Boyce Thompson Institute for Plant Research Yonkers, N Y

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JUSTUS C WARD, M Sc Chief Pharmacology and Rodenticide Section Insecticide Division United States Department of Agriculture, Chairman Committee on Toxicity and Antidotes Association of Economic Poisons Control Officials, Washington 25 D C

TORALD SOLLMANN M D Chairman of the Committee, Cleveland

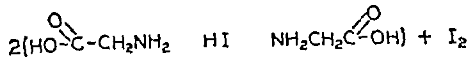
BERNARD E CONLEY R Ph Secretary of the Committee, Chicago

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies A copy of the rules on which the Council bases its action will be sent on application

R T STORMONT, M D, *Secretary*

DIGLYCOCOLL HYDROIODIDE-IODINE —**Bursoline** (BURNHAM SOLUBLE IODINE CO) —Two moles of diglycocoll hydroiodide combined with two atomic weights of iodine It contains 30 5 to 32 0 per cent of active iodine The formula of diglycocoll hydroiodide-iodine may be represented as follows



$$2(HO-\overset{O}{C}-CH_2NH_2 \quad HI \quad NH_2CH_2\overset{O}{C}-OH) + I_2$$

Actions and Uses—Diglycocoll hydroiodide-iodine is a preparation used in the form of tablets to provide a convenient source of readily soluble iodine for the disinfection of drinking waters Amounts of the preparation sufficient for disinfection of water are well below the toxic level They produce a slight iodine taste and color which are reasonably tolerable Its advantage over simple iodine solutions for the disinfection of water is its dry, stable form which permits it to be carried more conveniently The effect of diglycocoll hydroiodide-iodine on such a virus as epidemic hepatitis virus, which is infrequently found in drinking water, is not known

Dosage—Diglycocoll hydroiodide-iodine is supplied only in the form of tablets, each of which contains 16 4 mg of total iodine and provides an average titratable iodine concentration of 7 4 ppm when added to one liter of water One tablet per liter reduces *E coli*, *E typhosa*, *S dysenteriae* and *S schottmulleri* from concentrations of about 50 × 10^6 to 100 × 10^6 per 100 cc, to an average of 1 to 5 organisms per 100 cc (most probable number) at 25 C in normal, slightly polluted alkaline, turbid and cold (7 C) waters One tablet per liter is cysticidal at 23 C within 5 minutes in normal waters, in moderately polluted, alkaline and turbid waters, within ten minutes, and in cold water (5 C), within 20 minutes To disinfect waters rich in leaf extract, two tablets should be used per liter of water The highest iodine demands are not associated with water containing organic nitrogen, such as sewage, but with waters in which there is much decomposed vegetable matter The iodine demand of waters is less in acid than in basic solutions and it appears to be equal to or less than the chlorine demand

The tablets should be protected against moisture from the air, but are otherwise stable and maintain effectiveness for three months even under conditions involving a temperature of 140 F

Water on the lips of containers in which disinfection is carried out does not come in contact with the iodine or form a part of the measured portion being disinfected, therefore, these should not be used as drinking receptacles until the treated portion has been allowed to run across such areas to eliminate all untreated water

Tests and Standards—

Physical Properties Diglycocoll hydroiodide-iodine is a dark almost black lumpy powder with a strong odor of iodine It is freely soluble in water and practically insoluble in chloroform Although it is only very slightly soluble in alcohol the iodine component is soluble The pH of a 0 1 per cent solution of diglycocoll hydroiodide iodine in water is approximately 3 0

Assay Accurately weigh approximately 0 2 Gm of diglycocoll hydroiodide iodine into a suitable Kjeldahl flask and determine the nitrogen content by the Kjeldahl method using 1 Gm of a mixture of 1 part of cupric sulfate and 10 parts of potassium sulfate as the catalyst the amount of nitrogen found is not less than 6 82 nor more than 7 02 per cent

Accurately weigh approximately 0 5 Gm of diglycocoll hydroiodide-iodine into a suitable flask Add 50 ml of water, 2 ml of diluted sulfuric acid and 0 5 Gm of potassium iodide Titrate with 0 1 *N* sodium thiosulfate using starch T S as an indicator Each ml of 0 1 *N* sodium thiosulfate is equivalent to 0 01269 Gm of titratable iodine the titratable iodine found is not less than 30 5 nor more than 32 0 per cent

Accurately weigh approximately 1 Gm of diglycocoll hydroiodide-iodine into a suitable flask and pipet into the flask exactly 20 ml of 0 05 *M* potassium iodate solution Add 25 ml of diluted sulfuric acid and a boiling stone and boil the solution to remove the free iodine Cool the flask add 1 Gm of potassium iodide and titrate with 0 1 *N* sodium thiosulfate using starch T S as an indicator the iodine present as iodide is not less than 30 5 nor more than 32 0 per cent.

DIGLYCOCOLL HYDROIODIDE IODINE TABLETS Dissolve 20 tablets in 50 ml of water and proceed as described in the assay for titratable iodine in the monograph for diglycocoll hydroiodide iodine starting with ' 2 ml of diluted sulfuric acid ' The titratable iodine found is not less than 94 nor more than 106 per cent of the labeled amount

BURNHAM SOLUBLE IODINE COMPANY, AUBURNDALE 66, MASS

Tablets Bursoline Each tablet contains 8.2 mg of iodine, 18 0 mg of diglycine hydroiodide and 88 8 mg of sodium acid pyrophosphate

U S trademark 422,297

CHLORIODIZED OIL —**Iodochlorol** (SEARLE) —A product of the addition of iodine monochloride to peanut oil It contains 26 5 to 28 5 per cent of iodine in organic combination

Actions and Uses—Chloriodized oil is employed as a radiopaque agent for instillation into hollow structures to aid in roentgenographic diagnosis It is recommended for use in visualization of the accessory nasal sinuses, bronchial tract, fallopian tubes, uterus, genitourinary tract, empyemic cavities, soft tissue sinuses and fistulas

Chloriodized oil, because of its iodine content, should be employed with caution in patients with pulmonary tuberculosis, active or latent hyperthyroidism and possibly some patients with thyroid adenoma

Dosage—The dose varies with the capacity of the structure to be examined It ranges from 1 to 2 cc for small sinuses and fistulas to 20 cc in the paranasal sinuses and bronchial tract

Tests and Standards—

Physical Properties Chloriodized oil is a pale yellow viscous oily liquid with a faint bland color It is practically insoluble in water slightly soluble in alcohol and freely soluble in benzene, chloroform and ether Its refractive index at 25 C is about 1 505 and its specific gravity (25/25) is about 1 260

Identity Tests Heat a few drops of chloriodized oil in a platinum dish the liquid turns brown and then gives off violet vapors (*presence of iodine*)

Purity Tests Ignite about 1 Gm of chloriodized oil, accurately weighed the residue is not more than 0 1 per cent

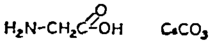
Assay Accurately weigh about 0 3 Gm of chloriodized oil in a small tared glass weighing cup Transfer the cup and oil to a pressure bottle and add 20 ml of 30 per cent methanolic potassium hydroxide. Wrap the bottle in a piece of wire screening and place it in a water bath at about 55 C Bring the bath to boiling and continue heating for 1 5 hours Remove the bottle from the bath and allow it to cool for at least 1 hour Add about 20 ml of water to the hydrolyzed sample and transfer it to a 250 ml separatory funnel Rinse the bottle twice with water and add the washings to the funnel Chill the funnel and contents and add 50 ml of hydrochloric acid Again cool the mixture and extract twice with 15 ml of chloroform taking care not to lose any of the aqueous layer Add 12 ml of chloroform and titrate with 0 1 *N* potassium iodate to a colorless endpoint in the chloroform layer Each ml of 0 1 *N* potassium iodate is equivalent to 0 00423 Gm. of iodine (*I*) The iodine content is not less than *26 5* nor more than *28 5* per cent.

G D Searle & Co, Inc, Chicago 80

Iodochlorol 20 cc. bottles A peanut oil containing *27* per cent of iodine and 7.5 per cent of chlorine in organic combination.

U S trademark 365 991

GLYCINE AND CALCIUM CARBONATE—Titralac (Schenley) —$C_2H_5NO_2$ —M W 75 068—$CaCO_3$—M W 100 09—A *mixture containing 0 15 Gm of aminoacetic acid*-N F and 0 35 Gm of calcium carbonate U S P in each tablet. The formula of these compounds may be represented as follows



$$H_2N{-}CH_2C({=}O)OH \qquad CaCO_3$$

Actions and Uses—Glycine and calcium carbonate in the proportions of 30 per cent and 70 per cent respectively produce an acid neutralization curve simulating that of whole milk The combination is used as a gastric antacid for the control of symptomatic hyperacidity and of peptic ulcer The rapid buffering action of glycine is supplemented by the more sustained alkalinizing effect of calcium carbonate The combination does not produce the acid rebound phenomenon nor the systemic alkalosis frequently attributed to the use of alkalis alone It may be particularly suited for use as a source of calcium in patients unable to take milk but its buffering action is in no way superior to that which might be achieved with a modified Sippy diet The only claim recognized for the effect of glycine is that it has acid buffering action in the mixture

Dosage—Glycine and calcium carbonate is administered orally in tablets each containing 0 15 Gm of glycine and 0 35 Gm of calcium carbonate. One such tablet provides within 12 minutes acid neutralization equivalent to that of 250 cc of milk For symptomatic gastric hyperacidity 1 or 2 tablets chewed or swallowed with water after meals or as needed As an aid in the management of peptic ulcer 1 or 2 tablets similarly at hourly intervals until symptoms are brought under control

Tests and Standards—

Glycine and Calcium Carbonate Tablets

Identity Tests Disintegrate 2 tablets of glycine and calcium carbonate in 10 ml of water and add 5 ml of acetic acid. Bubble the gas evolved through 5 ml of calcium chloride T S a white precipitate forms (*presence of carbonate*)

Filter the acid solution from the carbonate test and neutralize the solution to litmus with a strong ammonia solution Boil off the excess ammonia then add to the hot solution 5 ml of ammonium oxalate T S Filter and transfer a small amount of the white precipitate to a clean platinum wire and heat in a colorless flame A transient yellow red color is imparted to the flame The white precipitate is insoluble in acetic acid and dissolves in hydrochloric acid (*presence of calcium*)

Add 25 ml of water to 6 tablets of glycine and calcium carbonate allow them to disintegrate agitate the mixture and filter To 5 ml of the filtrate add 5 drops of diluted hydrochloric acid and 5 drops of a 1 2 aqueous solution of sodium nitrite a gas is evolved (*presence of glycine*)

Add 1 ml of ferric chloride T S to 2 ml of filtrate a deep wine color develops which disappears on acidification with diluted hydrochloric acid and reappears on the addition of an excess of strong ammonia solution (*presence of glycine*)

Add 1 drop of liquefied phenol and 5 ml of sodium hypochlorite T S to 2 ml of the filtrate a blue color develops slowly (*presence of glycine*)

Assay Accurately weight at least 20 tablets of glycine and calcium carbonate, grind them to a fine powder and store the powder in a closed bottle

Accurately weigh the equivalent of 5 tablets of glycine and calcium carbonate and transfer to a 500 ml volumetric flask and add 15 mL of diluted hydrochloric acid After dissolution and gas evolution are complete dilute to the mark with water Filter the solution discarding the first 20 ml of filtrate Pipet 50 ml of the filtrate to a 400 ml beaker and proceed as directed in U S P XIII page 93 under the assay for Calcium Carbonate. The calcium carbonate content is not less than 95 nor more than 105 per cent of the claimed amount.

Accurately weigh out the equivalent of 1 tablet of glycine and calcium carbonate and determine the total nitrogen by the Kjeldahl Method (U S P XIII page 671) Each ml of 0 1 *N* sulfuric or hydrochloric acid consumed is equivalent to 0 007508 Gm of glycine the glycine present is not less than 95 nor more than 105 per cent of the claimed amount.

Schenley Laboratories, Inc., New York 1

Tablets Titralac Each tablet contains 0 15 Gm of glycine and 0 35 Gm of calcium carbonate

U S patent 2 429 596

Council on Foods and Nutrition

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council

James R Wilson M D *Secretary*

The Gerber Products Company Fremont, Mich

Gerber s Chocolate Flavored Custard Pudding consists of whole milk solids sugar whole eggs arrowroot white flour cornstarch cocoa salt and water

Analysis (submitted by manufacturer) —Total solids 21 62% moisture 78 38% ash 0 91% fat (acid hydrolysis) 2 73% protein (N × 6 25) 3 24% crude fiber 0 09% carbohydrates other than crude fiber (by difference) 14 65%

Calories—0 96 per gram 27 19 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	120 U S P Units
Thiamine	0 026 mg
Riboflavin	0 150 mg
Ascorbic acid	1 21 mg
Niacin	0 099 mg
Calcium	84 8 mg
Phosphorus	75 5 mg
Iron	0 29 mg

Use—For use in the feeding of infants convalescents and others requiring a soft diet.

Gerber s Strained Soup—Vegetables and Bacon consists of peas potatoes bacon rice flour salt dried yeast celery powder and onion powder

Analysis (submitted by manufacturer) —Total solids 16 80% moisture 83 20% ash 0 88% fat (ether extract) 3 63% protein (N × 6 25) 2 27% crude fiber 0 24% carbohydrates other than crude fiber (by difference) 9 78%

Calories—0 81 per gram 22 92 per ounce.

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	117 U S P Units
Thiamine	0 139 mg
Riboflavin	0 054 mg
Ascorbic acid	1 79 mg
Niacin	1 25 mg
Calcium	10 0 mg
Phosphorus	38 4 mg
Iron	0 35 mg

Use—For use in the feeding of infants convalescents and others requiring a soft diet

Gerber s Strained Squash consists of squash with approximately 0 5% salt in sufficient water to prepare properly

Analysis (submitted by manufacturer) —Total solids 9 00% moisture 91 00% ash 0 79% fat (ether extract) 0 21% protein (N × 6 25) 0 67% crude fiber 0 75% carbohydrates other than crude fiber (by difference) 6 58%

Calories—0 31 per gram 8 75 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	1683 U S P Units
Thiamine	0 025 mg
Riboflavin	0 033 mg
Ascorbic acid	6 21 mg
Niacin	0 48 mg
Calcium	23 6 mg
Phosphorus	20 0 mg
Iron	0 23 mg

Use—For use in the feeding of infants convalescents and others requiring a soft diet

Gerber s Strained Sweet Potatoes consist of sweet potatoes salt and water to prepare

Analysis (submitted by manufacturer) —Total solids 17 64% ash 0 82% protein 0 95% fat 0 09% crude fiber 0 36% carbohydrates other than crude fiber (by difference) 15 42%

Calories—0 66 per gram 18 79 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	2450 U S P Units
Thiamine	0 034 mg
Riboflavin	0 045 mg
Ascorbic acid	9 70 mg
Niacin	0 32 mg
Calcium	15 5 mg
Phosphorus	29 2 mg
Iron	2 04 mg

Use—For use in the feeding of infants convalescents and others requiring a soft diet.

Gerber s Junior Chopped Squash consists of chopped squash with approximately 0 75% salt in sufficient water to prepare properly

Analysis (submitted by manufacturer) —Total solids 9 92% moisture 90 08% ash 1 18% fat (ether extract) 0 20% protein (N × 6 25) 0 87% crude fiber 1 05% carbohydrates other than crude fiber (by difference) 6 62%

Calories—0 32 per gram 9 00 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	1600 U S P Units
Thiamine	0 020 mg
Riboflavin	0 037 mg
Ascorbic acid	6 73 mg
Niacin	0 52 mg
Calcium	28 0 mg
Phosphorus	26 5 mg
Iron	0 38 mg

Use—For use in the feeding of older infants and young children.

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SATURDAY, APRIL 1, 1950

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

According to Webster's Encyclopedic Dictionary, an association is "a society, the members of which are united by mutual interests or for a common purpose " The objects of the American Medical Association under its constitution are "to promote the science and art of medicine and the betterment of public health " In every way the American Medical Association meets the definition of an association in Webster's dictionary Its members without question have mutual interests and a common purpose in the promotion of better health

Membership in a professional society should not be regarded begrudgingly as an obligation It is something one should undertake because he believes in what it represents, because he hopes that his aid will provide strength and because he truly wants to be an inseparable part of organizational affairs Nor should membership be undertaken passively, as one would follow a path of lesser resistance No, the member should be determined to participate actively in and support his association's programs If he disagrees with these programs, he should feel free to present his disagreements to the respective officers or committees, but if he does not disagree and accepts the programs, he should do his best to advance them Such is the democratic way of living in freedom

The policies of the American Medical Association are defined by its House of Delegates, which is the legislative body and which elects general officers It is composed of delegates elected by the constituent associations and by the sections of the Scientific Assembly and of delegates from several medical departments in the armed services, the Veterans Administration and the United States Public Health Service Thus the policies of the American Medical Association stem principally from the constituent associations where the delegates are elected by the local votes of constituent members

Until action was taken by the House of Delegates at the December 1949 meeting, members in good standing of the constituent associations were members of the American Medical Association without payment of dues, provided certain minimum requirements were met In December the House of Delegates voted to require dues for membership in the Association This was an unusual step in that it was the first time in the history of the Association that members were to pay dues But it is not an unusual action in organization affairs, as the members of most active associations pay a contributory part of the cost of advancing their associations' programs The truly unusual phase of the American Medical Association's history has been the absence of dues for more than a century

The advancement of medical education, the examination of foods, drugs, devices and cosmetics, the promotion of voluntary insurance plans, the encouragement of healthful working conditions, the health education of lay persons and the many other phases of work sponsored by the American Medical Association cause heavy expenditures But they are necessary if the medical profession is to meet its obligations Furthermore, today there is special need to call attention to the work the profession and its Association have been undertaking for so many years without fanfare This effort alone is expensive

There are many benefits of membership in a professional organization Some of the benefits of membership in the American Medical Association are mentioned in its Constitution and By-Laws Others are described in the booklet "American Medical Association Handbook 1949-1950," copies of which are now in the mails for all members This booklet explains among other things the makeup of the Association, its administration and its scientific and socioeconomic activities Elsewhere in this issue of THE JOURNAL is a list of questions and answers on payment of membership dues Those who are interested in additional information may secure it by writing to Dr George F Lull, Secretary and General Manager of the American Medical Association Interest in membership cannot be stressed too strongly, especially at this time when some individuals are making determined efforts to place the health of the nation and medical practice under federal control Physicians and patients have much at stake It behooves the medical profession to offer a united front if it is to defeat these attempts to make health the pawn of political sciolists

INFANT MORTALITY

Elsewhere in this issue is a summary of a new bulletin on the infant mortality problem in the United States and other leading nations by the Bureau of Medical Economic Research of the American Medical Association. One of the major objectives of the study was to find an explanation for the fact that the United States had the world's lowest infant mortality rate for the age group 6 months and under 1 year in 1946, but trailed New Zealand (excluding native Maoris) slightly in the age group under 6 months. A large portion of the explanation was found in the apparent difference in the classification of a birth as a stillbirth or as a live birth and an early death, particularly in the case of a premature birth. This was revealed by an analysis of the stillbirth-neonatal rates for the leading countries of the world; this rate is obtained by adding the number of stillbirths per thousand total births to the number of neonatal deaths (under 1 month) per thousand total births.

The Bureau's bulletin and summary reveal that the magnitude of the problem, on the basis of this important index of stillbirths and neonatal deaths, is about the same in each of the leading nations of the world. The authors stress the fact that a stillbirth represents almost as much of a failure as an early infant death. The major causes of infant deaths over 1 month and under 1 year, pneumonia and diarrhea, have been largely conquered in most sections of the United States already.

Through correspondence with the state health departments, the Bureau collected data from which they calculated a provisional 1948 infant mortality rate of 31.7 for the United States. New Zealand was the leader in 1948 with a rate of 22. Infant deaths in the age group over 1 month and under 1 year, especially in the age group 1 month and under 6 months, account for one third of the difference between the infant mortality rates of the United States and New Zealand. The authors show in their analysis that the remaining two thirds is explained by the stillbirth-neonatal rates. In fact, they found that all the leading nations have approximately the same stillbirth-neonatal rate. The remaining two thirds is, therefore, a statistical illusion.

Comparisons of individual states in this country with leading nations of the world further reveal the outstanding infant mortality record of the United States. Such comparisons must be made in view of the fundamental differences between a large country, such as the United States, and a small country with a great degree of racial uniformity, such as New Zealand or Sweden.

The bulletin provides valuable information on the rapid strides being made in the United States in improving the health of the people. Many otherwise well informed persons are not cognizant of the tremendous health progress made since the agitation for compulsory sickness insurance began in the middle of the 1930's. The infant mortality rate for the United States declined from 56 in 1935 to 32 in 1947, whereas the rate for New Zealand, the leader, declined from 32 to 25. Thus the decline in infant mortality for the United States has been very great. Most of the difference between the current rates for the United States and New Zealand is explained by differences between the definitions and rules of the two countries regarding stillbirths and early infant deaths.

The data for maternal mortality indicate an even more phenomenal rate of progress. The maternal deaths per thousand live births for the United States declined from 5.8 in 1935 to 1.3 in 1947, whereas the corresponding rates for New Zealand were 4.2 and 1.1. These infant and maternal mortality rates do not include the native Maoris in New Zealand but do include all racial groups in the United States, even the native American Indians. The infant mortality rate among Indians is relatively high although the federal government provides the medical care for many of them. Recent data on life expectancy at birth, the third accepted measure of the general health situation, are not available for the small countries which have been the leaders in the past. Life expectancy values for earlier years were not as good as those for a number of our leading states; for example, the Swedes apparently live longer in Minnesota than they do in Sweden. But it should now be clear to the well informed that the health of the people of the United States, including all racial groups, as indicated by vital statistics, is now or soon will be better than that indicated by comparable statistics for any nation in the world. The United States has come a long way since 1935. Considering the handicaps of the mixed racial population of the United States, our health progress has been so great since 1935 that there is certainly now no reason to believe that there is any health crisis in the United States which justifies a revolutionary change in our system of delivering medical care.

ANIMALS FOR MEDICAL RESEARCH

In New York, bills have been introduced into the state legislature to amend the Stray Animals Act. Among other things, the amendment will provide for vaccination against rabies of all dogs licensed by the Society for Prevention of Cruelty to Animals. In New York state, dogs are licensed by the Society for Prevention of Cruelty to Animals. The amendments which would make animals available for medical research also increase the license fees and thus will increase the budget for the SPCA, perhaps by an additional $600,000 per year.

Seventy-eight organizations have already pledged support to these amendments. This is one of the tangible results of the resolution taken approximately five years ago by a group of medical scientists to stop defending themselves against the libels of the antivivisectionists and, instead, to attack the problem of animals in research in a constructive manner, by forming a National Society for Medical Research The deceptive propaganda of the antivivisectionists should be exposed for what it is, the work of the Society will be helpful in the achievement of this objective Even more important, stray animals from many pounds can be made available by appropriate legislation to scientific institutions for use in research

The National Society for Medical Research has estimated that the proposed amendment would save for medical studies a significant portion of the 70,000 dogs and 150,000 cats now destroyed by the SPCA in New York each year No one desires animals to suffer needlessly Sensible persons realize that medical research cannot progress at a moderate pace without using certain animals, of which dogs and cats are among the most useful Thousands of dogs and even larger numbers of cats are destroyed by humane organizations every year The constructive use of such animals has been hindered by the activities of a small but active group of antivivisectionists Local active support by the medical profession of the necessary action will help solve these problems

Current Comment

CULTIVATION OF INFLUENZA VIRUS IN EGG CAVITIES

Fertilized chicken eggs form an excellent medium for the cultivation of many viruses Some of them show specific affinities for certain structures of the egg Thus, the main site of multiplication for the influenza virus is the chorioallantoic membrane Bernkopf[1] of the School of Public Health, University of Michigan, therefore suggests eliminating the other constituents of the egg and using the chorioallantoic membrane alone for the cultivation of this virus Eggs are incubated 14 to 15 days The embryo and yolk sac are then poured out and their connection with the chorioallantoic membrane severed The chorioallantoic membrane is now the only embryonic structure remaining in the shell The inner surface of this membrane is thoroughly washed with isotonic salt solution The shell is then filled with Tyrode's solution containing 10 units of penicillin and 40 micrograms of streptomycin per cubic centimeter Finally the Tyrode solution is inoculated with the virus to be cultivated The shell opening is now covered with a sterile rubber cap and sealed with hot paraffin The inoculated deembryonated egg is incubated at 37 C in a test tube roller which makes six revolutions per hour One can withdraw fluid from the egg at desired intervals by piercing the rubber cap with a sterile hypodermic needle With the PR8 strain of the influenza virus, hemagglutination titers of 1,280 to 2,560 are regularly obtained after 24 hours' incubation The egg cavity method has several practical applications For virus inoculation from throat washings it is possible to introduce larger amounts of fluid into the egg than by routine methods In the production of vaccines multiplication of the virus may be obtained in a medium of chosen composition and the effect of inhibitors and accelerators accurately studied

RED CROSS MODIFIES HOME NURSING PROGRAM

The American National Red Cross has offered classes in home care of the sick and in the care of mothers having babies since 1914 More than three million certificates have been earned in these courses by high school and university students, homemakers and other interested persons These courses have now been reorganized after a study made by the staff and the board of governors of the Red Cross The Summer Home Nursing Course has been reorganized into two courses, one of which is "Home Care of the Sick" and the other "Mother and Baby Care" The first course is given by selected instructors who need not be nurses, but the second is given only by nurses Both courses are closely supervised by professional nurses This is the sort of quiet, persistent, constructive activity which has done so much to improve the health of the American people It is an effort which the people support through their monetary gifts and in which they participate by giving their time and effort to improve their own competence in the health field Programs like this are in accord with the philosophy expressed by Clara Barton, founder of the Red Cross, when she said, "These shall not eat the bread of idleness, the able bodied must work for what they receive"

AMERICAN MEDICAL DIRECTORY

The new, eighteenth edition of the AMERICAN MEDICAL DIRECTORY will soon be ready for delivery on orders already on file About 1,400 pages of the book have been printed The unusual delay in publishing this Directory was caused by the fact that the type for the entire book had to be reset The Directory will contain biographic information on 219,678 physicians, including 51,984 who were not listed in previous editions Practically all of these are physicians who graduated in the last seven years The names of 28,242 deceased physicians have been dropped from the Directory The book will contain about 2,904 pages, or 132 more than were in the previous edition, which was published in 1942 It is expected that delivery of the Directory will begin June 1, 1950

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[1] Bernkopf, H Proc Soc. Exper Biol & Med **72** 680 (Dec.) 1949

ORGANIZATION SECTION

Official Notes

PAYMENT OF A M A DUES

The office of the Secretary of the American Medical Association is receiving many questions concerning the payment of dues voted by the House of Delegates at its December 1949 meeting Some of the questions and the answers offered by the Secretary s office are reproduced herewith for the information of THE JOURNAL'S *readers In the editorial pages of this issue of* THE JOURNAL *is a statement on membership and fellowship in the American Medical Association* —EDITOR

QUESTION *Does the American Medical Association require the payment of dues by its members?*

ANSWER Yes For the first time in its history, the members of the American Medical Association in 1950 will pay membership dues These dues apply to all members of the Association except those in three specific categories

QUESTION *What is the amount of the dues for 1950?*

ANSWER $25

QUESTION *What are the American Medical Association 1950 membership dues of a physician who joins his county medical society after July 1?*

ANSWER Dues for physicians who become members after July 1, 1950, are $12.50 The dues for all members before July 1 are $25

QUESTION *Does a member who transfers from one state or county to another pay American Medical Association membership dues a second time?*

ANSWER No A member pays his American Medical Association dues only once in a calendar year

QUESTION *By what authority were the dues set at the $25 level?*

ANSWER On recommendation of the Board of Trustees and approval by the House of Delegates in December 1949 in accordance with the provisions of the Constitution and By-Laws of the American Medical Association

QUESTION *What members are exempt from the payment of American Medical Association membership dues for the year 1950?*

ANSWER (*a*) Members for whom the payment of dues constitutes a financial hardship as determined by their local medical societies

(*b*) Members in actual hospital training for not more than five years after graduation from medical school

(*c*) Members who have retired from active practice

In all instances exemption may be allowed only if the member is also exempt from state and county medical society dues

QUESTION *To whom should the American Medical Association membership dues be paid?*

ANSWER To the local or state society, depending on the system of payment established by the state medical association concerned

QUESTION *When should American Medical Association 1950 membership dues be paid?*

ANSWER When the member receives his bill from his local or state society No remittance of membership dues should be made directly to the American Medical Association.

QUESTION *What is the relation between American Medical Association membership dues and Fellowship dues?*

ANSWER (*a*) The status of Fellowship and Fellowship dues has not been changed by the establishment of American Medical Association membership dues

(*b*) Members may become Fellows—subject to approval by the Judicial Council—by requesting such status on a form supplied by the American Medical Association

(*c*) Fellowship dues of $12 and membership dues of $25 are separate dues *Members who are or who become Fellows, therefore pay a total, combined Fellowship and membership dues of $37*

Fellowship dues include subscription to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION or to one of the special journals

QUESTION *What is a Service Fellow?*

ANSWER Commissioned medical officers of the Armed Forces and the United States Public Health Service and permanent medical officers of the Veterans' Administration may become Service Fellows of the American Medical Association on nomination by their chief medical officers and approval by the Judicial Council Service Fellows are not required to pay Fellowship dues and do not receive any publication of the Association except by personal subscription

QUESTION *Must a Service Fellow be also a member of the American Medical Association?*

ANSWER No Service Fellowship is a special category of Fellowship established for physicians in full time Government service, many of whom are not eligible for membership in their local medical societies However, a Service Fellow who is a member of a local medical society may elect to pay American Medical Association dues for 1950 and thereby continue his membership in the American Medical Association

QUESTION *What action is taken when there is failure to pay American Medical Association membership dues?*

ANSWER Members who are delinquent in the payment of American Medical Association dues for one year and who fail to pay such delinquent dues within 30 days after receipt of notification from the Secretary of the American Medical Association will forfeit membership in the American Medical Association Retention of membership in the local and state medical societies under these circumstances will depend on the local action of those societies

Washington Letter

(From a Special Correspondent)

March 27, 1950

Federal Funds for Medical Research

Government support of medical research apparently will not be reduced next year, in spite of the economy drive in Congress On March 21 the House Appropriations Committee favorably reported a bill which while cutting the Federal Security Agency appropriation $43,299 010 below the figure recommended by President Truman deals liberally with research and disease control activities of Public Health Service an FSA component. The committee not only approved the full $13,250 000 recommended by the Budget Bureau for National Institutes of Health but inserted an additional $2 500 000 to increase scientific investigations of the steroid hormones A substantial portion of the NIH appropriation will be administered by the Division of Research Grants and Fellowships

The National Cancer Institute similarly received the full $20 086 000 requested by President Truman and the Budget Bureau However no funds were provided for subsidizing construction and expansion of cancer research laboratories and other facilities despite appeals made at recent hearings that at least $14,000 000 be allocated for this purpose.

For the National Mental Health Institute, $9 944 000 was approved, as recommeded in the White House budget This figure is $1 345 000 above the sum appropriated for the current fiscal year which ends June 30 1950

The National Heart Institute receives the full budget estimate of $14 150,000, an increase of $3 338 500 over the present year Largest items under this heading are $3 820 000 for research grants, $2 000 000 grants to states for control activities $1 830-

354 for support of intramural investigations at the institute and $741,000 for support of cancer teaching throughout the country The Senate will not act on the annual appropriations bill until it has been passed by the House

Atlanta Screening Program Opening April 4

The Public Health Service has announced that its multiphasic screening program in Atlanta, Ga, largest attempted to date, will be opened April 4 Between 250,000 and 300,000 persons are expected to receive examinations for tuberculosis, syphilis, diabetes, anemia and oral lesions Twelve clinics will be used for the project

Coming Medical Meetings

Alabama Medical Association of the State of Birmingham April 20 22 Dr Douglas L Cannon 519 Dexter Ave Montgomery Secretary
American Academy of Neurology Cincinnati Netherlands Plaza Hotel, April 14 15 Dr Joe R Brown Mayo Clinic, Rochester, Minn Secretary
American Association for Thoracic Surgery, Denver, Colo, April 15 19 Dr Brian Blades 901 Twenty Third St N W Washington D C Secretary
American Association of Anatomists New Orleans Louisiana State University, April 3 5 Dr Normand L Hoerr 2109 Adelbert Road Cleveland 6 Secretary
American Association of Industrial Physicians and Surgeons Chicago, Hotel Sherman, April 24 28 Dr Frederick W Slobe, 28 E Jackson Blvd Chicago 4, Secretary
American Association of Pathologists and Bacteriologists Madison, Wis, April 14 15 Dr Alan R Moritz 2085 Adelbert Road Cleveland 6 Secretary
American Association of Railway Surgeons Chicago Drake Hotel April 4 6 Dr Chester C Guy 5800 Stony Island Ave Chicago 37 Secretary
American Association on Mental Deficiency Columbus Ohio Hotel Deshler Wallick May 16 20 Dr Neil A Dayton P O Box 96 Willimantic Conn Secretary
American College of Physicians Boston April 17 21 Dr George Morris Piersol 4200 Pine St Philadelphia Secretary General
American Congress on Obstetrics and Gynecology, New York Hotel Pennsylvania, May 14 19 Dr F Bayard Carter Duke Medical School Durham N C, Secretary
American Gastro-Enterological Association Atlantic City April 28 29 Dr Dwight L. Wilbur 655 Sutter St San Francisco Secretary
American Gynecological Society, White Sulphur Springs W Va The Greenbrier May 11 13 Dr Norman F Miller 1313 E Ann St Ann Arbor Mich Secretary
American Pediatric Society French Lick, Ind, May 8 10 Dr Henry G Poncher 1819 W Polk St. Chicago 12 Secretary
American Physiological Society Atlantic City April 17 21 Dr Milton O Lee 2101 Constitution Ave Washington 25 D C Executive Secretary
American Psychiatric Association Detroit May 1 5 Dr Leo H Bartemeier General Motors Bldg Detroit 2 Secretary
American Psychoanalytic Association, Detroit Hotel Statler, April 28-30 Dr LeRoy M A Maeder 1910 Rittenhouse Square Philadelphia 3, Secretary
American Psychosomatic Society, Atlantic City, Chalfonte Haddon Hall, April 29 Dr Sydney G Margolin 714 Madison Ave New York 21, Secretary
American Society for Clinical Investigation Atlantic City May 1 Dr Paul B Beeson Grady Hospital Atlanta 3 Ga Secretary
American Society for Experimental Pathology, Atlantic City, April 11 Dr Sidney C Madden Brookhaven National Laboratory Upton L I New York Secretary
American Society for Pharmacology and Experimental Therapeutics Atlantic City April 17 21 Dr Harvey B Haag Medical College of Virginia, Richmond 19 Secretary
American Society of Biological Chemists Atlantic City April 9 14 Dr R W Jackson 825 N University St Peoria 5 Ill Secretary
American Surgical Association Colorado Springs Colo April 19 23 Dr Nathan Womack University Hospitals Iowa City Iowa Secretary
American Therapeutic Society Boston, April 13 16 Dr Oscar B Hunter 915 Nineteenth St N W Washington 6 D C Secretary
Arizona State Medical Association Phoenix Hotel Westward Ho April 30 May 4 Dr Frank J Milloy 234 N Central Ave Phoenix Secretary
Arkansas Medical Society Fort Smith April 17 19 Dr William R Brooksher 602 Garrison Ave Fort Smith, Secretary
Association of American Physicians Atlantic City May 2 3 Dr Henry M Thomas Jr 1201 N Calvert St, Baltimore 2 Secretary
California Medical Association San Diego April 30 May 3 Dr L Henry Garland 450 Sutter St San Francisco Secretary
Connecticut State Medical Society, Waterbury May 2-4 Dr Creighton Barker 160 St Ronan St New Haven Secretary
Federation of American Societies for Experimental Biology Atlantic City April 17 21 Dr Milton O Lee 2101 Constitution Ave Washington 25, D C Secretary
Florida Medical Association, Hollywood April 23 26 Dr Robert B McIver, P O Box 1018 Jacksonville Secretary
Georgia Medical Association of Macon Hotel Dempsey April 18 21 Dr Edgar D Shanks 478 Peachtree St N E Atlanta Secretary
Hawaii Territorial Medical Association Hilo May 4 7 Dr I L Tilden Mabel Smyth Bldg Honolulu 13 Secretary
International and Fourth American Congress on Obstetrics and Gynecology New York, Hotel Pennsylvania May 14 19 Dr Fred L Adair 161 E Erie St Chicago 11, *Information* Headquarters
Iowa State Medical Society, Burlington April 23 26 Dr Allan B Phillips 406 Sixth Ave Des Moines 9 Secretary
Kansas Medical Society Wichita May 15 18 Dr D D Vermillion 512 New England Bldg, Topeka Secretary
Louisiana State Medical Society, Baton Rouge, April 24-26 Dr P T Talbot, 1430 Tulane Ave New Orleans 13 Secretary
Maryland Medical and Chirurgical Faculty of the State of Baltimore April 25 26 Dr George H Yeager 1211 Cathedral St Baltimore 1 Secretary
Massachusetts Medical Society Boston Hotel Statler May 16 19 Dr H Quimby Gallupe 8 Fenway Boston 15 Secretary
Mississippi State Medical Association Jackson May 9 11 Dr T M Dye Box 295 Clarksdale Secretary
National Tuberculosis Association Washington, D C, April 25 28 Dr James E Perkins 1790 Broadway, New York 19, Managing Director
Nebraska State Medical Association Lincoln Hotel Cornhusker, May 1 4 Dr R B Adams 1315 Sharp Bldg Lincoln Secretary
New Mexico Medical Society, Las Cruces May 4 7 Dr H L January 4852 Southern Ave Albuquerque Secretary
New York Medical Society of the State of New York May 8 12 Dr Walter P Anderton 292 Madison Ave New York 17 Secretary
North Central Clinical Society Cincinnati Netherland Plaza Hotel, April 29 Dr John H Payne 5 W Fourth St Cincinnati, Secretary
North Carolina Medical Society of the State of Pinehurst The Carolina, May 1 3 Dr Millard D Hill 15 W Hargett St Raleigh Secretary
Northern Tri State Medical Association, Grand Rapids Mich April 11 Dr William H Gordon 1553 Woodward Ave Detroit Secretary
Ohio State Medical Association Cleveland May 16 19 Mr Charles S Nelson 79 E State St Columbus 15, Executive Secretary
Oklahoma State Medical Association Oklahoma City May 14-17 Dr Lewis J Moorman 210 Plaza Court Oklahoma City, Secretary
Rhode Island Medical Society Providence R I Medical Library, May 10 11 Dr Morgan Cutts, 106 E Francis St Providence 3 Secretary
Society of American Bacteriologists Baltimore May 15 19 Dr John E. Blair, 1919 Madison Ave. New York 35 Secretary
South Carolina Medical Association Myrtle Beach, May 16 18 Dr Julian P Price 105 W Cheves St Florence Secretary
Tennessee State Medical Association Memphis April 10 12 Dr W M Hardy 706 Church St Nashville 3 Secretary
Texas State Medical Association of Fort Worth May 2 5 Dr Harold M Williams, 700 Guadalupe St, Austin Secretary

Medical Legislation

STATE LEGISLATION

Arizona

Bill Enacted—H 5-X was approved March 11 1950 It enacts a completely **new motor vehicle act** which among other things, permits the introduction in evidence of results of chemical analyses of a defendant s blood urine breath or other bodily substance to determine the amount of alcohol in defendant s blood at the time of a charge of operating a motor vehicle while under the influence of intoxicating liquor

Kentucky

Bills Introduced—H 465 proposes to authorize the board of trustees of the University of Kentucky to establish and **operate a College of Medicine and Surgery** S Res 67 proposes that the General Assembly go on record against any form of **compulsory health insurance** or any system of political medicine designed for national bureaucratic control and that a copy of such resolution be sent to the senators and representatives in the United States Congress from Kentucky

New Jersey

Bills Introduced—A 469, to amend the act regulating the practice of medicine and surgery, proposes a **penalty of $1,000** for a third or subsequent offense against the provisions of the medical practice act A 472 proposes to direct the director of the division of motor vehicles to provide and issue without additional cost to the applicant **special identification markers** or license plates indicating that any motor vehicle for which the same is furnished is *owned by a licensed physician* S J Res 3 proposes the designation of the month of April as **Cancer Control Month**

New York

Bills Introduced—A 2894 to amend the administrative code proposes to save **harmless medical superintendents**, deputy medical superintendents lay superintendents and deputy lay superintendents of the department of hospitals from liability for their medical or administrative acts S 2814 to amend the mental hygiene law proposes the creation and establishment of a ***mental hygiene council of ten members***, at least six of whom shall be physicians with a minimum of five years experience after internship Two of such physicians shall be skilled in the practice of psychiatry, one in the practice of hospital administration, one in the practice of pediatrics, one in the practice of internal medicine and one in the field of public health education

Virginia

Bill Introduced—S J Res 42 proposes that the General Assembly of Virginia respectfully request the Congress of the United States to refrain from enacting any legislation which will impose on the people of this state **compulsory health insurance** or any form of government administered medical and hospital care

Bill Enacted—S 104 has become chapter 142 of the Laws of 1950 It requires every hospital and clinic to make available to the State Department of Health abstracts of records of patients having **malignant tumors** or cancers

GOVERNMENT SERVICES

NAVY

THE NAVY NEEDS INTERNS

The Navy has opened a procurement program for the appointment of 265 qualified candidates to the grade of lieutenant (jg) in the Medical Corps of the Naval Reserve for the purpose of pursuing intern training in civilian hospitals and medical centers during the fiscal year 1951 Candidates must be graduates of or enrolled in the fourth year class of a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association and in other respects meet the standards for appointment in the Medical Corps of the Naval Reserve They must have contracted for a rotating internship of 12 months' duration (for the 1950 1951 training year) in an approved civilian hospital or medical center Applicants scheduled to pursue straight internships and internships of more than 12 months will be ineligible for admission to the program The latter year of a 24 month rotating internship will be acceptable if the candidate is already engaged in intern training

Applicants are strongly urged to submit their applications as early as possible as the closing date is May 15 Applications must be filed through the Office of Naval Officer Procurement nearest the place of residence of the candidate They then will be forwarded by procurement offices to the Bureau of Naval Personnel for recording and thence to the Bureau of Medicine and Surgery for determination of the candidate s qualifications

Selected candidates will be issued an appointment in the grade of lieutenant (jg) in the Medical Corps of the U S Naval Reserve and orders to active duty (at the institution with which they have contracted for the year of training) on or about the date of commencement of internship Candidates selected will be required to serve on active duty for 24 months beyond the date of completion of intern training

An additional 192 internships will be provided in naval hospitals during the fiscal year 1951 The selection of candidates for this program was conducted last autumn All quotas have been filled and the program for placement of interns in naval hospitals for the 1950-1951 training year has been closed However candidates not selected for that program because of numerical limitations are eligible to apply for the current civilian intern program Internships in naval hospitals are rotating in character, of 12 months duration

ACTIVATION OF VOLUNTEER RESEARCH RESERVE UNIT

The ceremony for activation of Research Reserve Unit W-5 (Bio-Sciences) was held March 9, at the Naval Medical Center, Bethesda Md. Among the guests were Rear Admiral T A Solberg chief of naval research Rear Admiral Lamont Pugh assistant chief, Bureau of Medicine and Surgery , Capt. W L Gates volunteer reserve program officer Potomac River Naval Command, and Dr H T Karsner, medical research advisor to the Surgeon General Comdr Barry King (MSC, USNR) is the commanding officer of the new Research Reserve Unit Admiral Pugh said that 85 per cent of the total personnel of the Navy during World War II were members of the Reserve and that at present there are 73 volunteer medical units with a total of 48,703 personnel in all categories

Research Reserve Unit W-5 is one of 85 research units established throughout the United States not under the Bureau of Medicine and Surgery but sponsored by the Office of Naval Research The purpose of the reserve unit is to maintain a reserve of scientifically trained civilians who can be ready on a moment s notice to step into uniform

PUBLIC HEALTH SERVICE

APPOINT CHIEF OF CLINICAL UNIT

Dr Lewis K. Sweet, chief medical officer of Gallinger Municipal Hospital, Washington D C, has been appointed chief of the recently established clinical unit of the Microbiological Institute National Institutes of Health The new unit was established to coordinate the clinical work of four laboratories which comprise the Microbiological Institute—Laboratory of Infectious Diseases, Laboratory of Tropical Diseases, Laboratory of Biologics Control (all located at the National Institutes of Health) and the Rocky Mountain Laboratory at Hamilton Mont Dr Sweet will conduct basic clinical-laboratory studies and will later direct clinical investigations on infectious and tropical diseases at the clinical center of the National Institutes of Health, which is scheduled to open in 1952 He received an A.B degree from the University of Texas and an M D from Harvard Medical School From 1932 to 1934 he was assistant in pediatrics at the Peiping Union Medical College, Peiping China. He was in private practice from 1934 to 1936 From 1936 to 1938 he was medical officer in the U S Children s Bureau He has been at Gallinger Municipal Hospital since 1938 Dr Sweet is a member of the American Pediatric Society, Society for Research in Child Development American Medical Association and Medical Society of the District of Columbia.

TRANSFER RESEARCH LABORATORY

The Venereal Disease Research Laboratory of the Public Health Service formerly located at the Staten Island Marine Hospital, has been transferred to the Communicable Disease Center, Atlanta Ga The Laboratory will remain under the technical supervision of the Division of Venereal Disease and will continue to furnish state health departments with the services it has offered in the past.

CERTIFIED BY SPECIALTY BOARDS

The following doctors, commissioned officers of the Public Health Service were certified by American specialty boards during the last year

Preventive Medicine and Public Health

Norman H Topping Asst. Surg Gen
Ralph C Williams Asst Surg Gen
Frederick J Brady Medical Director
Austin Deibert, Medical Director
Robert H Flinn Medical Director
Eugene A. Gillis Medical Director
Paul A Neal, Medical Director
Winfield K. Sharp Medical Director
Richard F Boyd, Sr Surgeon
Roy E Butler Sr Surgeon
Michael C Furcolow Sr Surgeon
Alexander G Gilliam Sr Surgeon
Harry Heimann Sr Surgeon
Harold J Magnuson Sr Surgeon
Arthur W Newitt Sr Surgeon
Henry R O Brien Sr Surgeon
Wilson T Sowder Sr Surgeon
Charles L. Williams Jr Sr Surgeon
Harold S Barrett Surgeon
Samuel C Ingraham II Surgeon

Surgery

Thorburn S McGowan Medical Director
Walter S Mozden Medical Director
Carruth Wagnar Sr Surgeon

Internal Medicine

W Clark Cooper

Psychiatry

Kenneth W Chapman Medical Director
Thomas H Ainsworth Sr Asst. Surgeon

Dermatology and Syphilology

Paul C. Campbell Jr Sr Surgeon

PERSONAL

Dr Adolph Rumreich has been appointed regional medical director for Region V of the Federal Security Agency with headquarters in Chicago

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest such as relate to society activities, new hospitals education and public health Programs should be received at least two weeks before the date of meeting)

ALABAMA

State Medical Meeting—The annual meeting of the Medical Association of the State of Alabama will be held at the Thomas Jefferson Hotel, Birmingham, April 20-22, under the presidency of Dr Frank C Wilson, Birmingham Invited speakers at the scientific sessions include

Ralph A Reis Chicago *Prolonged Labor*

John C Burch, Nashville, Tenn, *Hysterectomy, Indications and Technic*

Gilson C Engel Philadelphia *Problems of Gastric Carcinoma*

Paul D White Boston Jerome Cochran Lecture Historical Delays in the Application of Knowledge About the Heart

Hon Lister Hill Montgomery subject to be announced

Paul C Swenson Philadelphia Responsibility of the Radiologist to the Patient and Referring Clinician in the Examination of the Gastrointestinal Tract

Frank H Constantine New York Description and Discussion of the *Dacryocystorhinostomy Operation*

John Adriani New *Orleans Management of Anesthetic Emergencies*

A symposium on Congenital Heart Disease will be held Thursday afternoon by faculty members of the Medical College of Alabama in Birmingham The president's reception and dance is scheduled for Friday at 10 p m Both scientific and commercial exhibits will be displayed The silver anniversary meeting of the Woman's Auxiliary will be held at the Tutwiler Hotel *April 20-21*

COLORADO

Postgraduate Course in Rheumatic Fever—A postgraduate course in rheumatic fever and rheumatic heart disease will be offered by the Denver Rheumatic Fever Diagnostic ervice and the University of Colorado, department of medine, Denver, April 21-22, at the University of Colorado Medial Center, Denver Recent developments in diagnosis and management of the patient with rheumatic fever will be discussed and the opportunity for actual individual clinical examination of the patients with rheumatic heart disease will be provided *The course is open to all registered physicians* who are members of their respective county medical societies Registration fee will be $5 and tuition, $15 Further inquiries may be made to the Office of Director of Graduate and Postgraduate Medical Education, 4200 East Ninth Avenue, Denver 7

CONNECTICUT

Annual State Medical Meeting—The Connecticut State Medical Society will hold its annual meeting at Wilby High School in Waterbury May 2-4, *under the presidency* of Dr Charles H Sprague, Bridgeport Invited speakers *include*

Manfred W Comfort Rochester Minn New Concepts of Pancreatitis

W Warriner Woodruff Saranac Lake N Y Present Status of the Treatment of *Pulmonary* Tuberculosis

Rolland J Whitacre East *Cleveland, Ohio Practical Points for the Part Time Anesthetist*

Robert Elman St Louis Methods of Protein Administration in Surgical Patients

Harry Gold, New York, Treatment of Some Disorders of Cardiac Rhythm

Frank E Cormia New York Role of Psychosomatic Factors in Dermatoses

Mr J Carlton Ward Jr, Farmington Fundamental Principles of Atomic Energy and Some Implications of the *Hydrogen Bomb*

Robert A. Cooke New York *Asthma and Its Management*

Edward J Stieglitz Washington D C, Emotional Hazards of Senescence

Philip M Stimson, New York Over All Care of the Subacute and Chronic Poliomyelitis Patient

Tom D Spies, Birmingham Ala, Recent Advances in Nutritional Research

On Tuesday afternoon there will be a symposium on anemias, blood dyscrasias and blood therapy in children and adults, with Dr Thomas P Murdock, Meriden, presiding, and on Thursday afternoon one on endocrine subjects, with Dr C Charles Burlingame, Hartford, presiding The annual dinner will be held Wednesday evening at the Waverly Inn in Cheshire, when Fifty Year Membership Awards will be presented Sections and special state society meetings will be held on the afternoon of each day The Woman's Auxiliary to the society will meet May 3 at the Waterbury Country Club

ILLINOIS

Radio Programs—"Health Talk," the weekly series on health education televised over WGN-TV, Chicago, under the auspices of the Educational Committee of the *Illinois* State Medical Society, will present the following programs during April

April 4, The Second Child Arrives Lawrence Breslow, Chicago
April 11 The Rh Factor Israel Davidsohn, Chicago
April 18 Metal in Your Bones *Joseph Farrington* Chicago
April 25 It's Your Heart Andrew C Ivy and Louis Krasno Chicago

Dr Theodore R Van Dellen, assistant dean, Northwestern University Medical School, appears as moderator *in these* weekly series of the Educational Committee

Forthcoming programs on "Your Doctor Speaks," a series of transcriptions begun February 2 *over* WFJL (FM), include

April 6 Morris Fishbein Quacks and Quackery
April 13 Herbert E Schmitz Cancer
April 20 Carlo Scuderi Care of the Feet

The series is presented *under the auspices* of the Chicago Medical Society *and the Illinois State* Medical Society

State Premature Care Program Resumed—After a recent curtailment of state assistance for care of premature infants (The Journal, February 18, page 294) the State Department of Public Health on March 17 announced that it would again give financial aid for special care of babies weighing up to 5 pounds (2,268 Gm) at birth It has been possible to relax the restrictions applied on January 27, because of receipt of unanticipated local and federal funds and the high degree of cooperation of hospitals where premature centers are located On January 27 the health department had announced that it would lend financial assistance only in cases where the newborn infant weighed 4 pounds (1,814 Gm) or less The department also relaxed a ruling made at the same time that infants should be referred to a premature center within 24 hours to be eligible for state assistance The state health department underwrites the care of premature infants in cases in which parents are unable to bear the expenses, only if the infants are referred to centers in St Francis Hospital, Peoria, St. John's Hospital, Springfield, and Christian Welfare Hospital, East St Louis

Chicago

Davis Lecture in Medical History—Dr Joseph A Capps, *emeritus professor of clinical medicine* at the University of Chicago, *delivered the annual* D J Davis Lecture on Medical History at the University of Illinois College of Medicine, March 29

Honor Staff Members on Anniversary—Nine physicians were among 17 staff members honored at the twenty-fifth anniversary observance of the opening of the University of Illinois' Research and Educational Hospitals on April 1 Staff members who have served continuously since April 1, 1925 were presented keys by Dr Andrew C Ivy, vice president of the university in charge of the Chicago Professional Colleges, at a dinner and reception at the Sheraton Hotel They were Hallard Beard, Carroll L Birch, Edmund F Foley, Willard Van Hazel, Francis L Lederer, Francis E Senear, Michael H Streicher, Walter H Theobald and Leonard F Weber Guest speaker for the evening was George D Stoddard, LL D, president of the university Mr John E Millizen administrator of the hospitals, served as master of ceremonies The Research and Educational Hospitals, operated for the advancement of medical education and research, have admitted 150,000 patients for bed treatment since the first patients were treated in 1925, and 365,000 patients have received treatment in the outpatient clinics During the 1948-1949 fiscal year 7,100 patients received bed care, while outpatient clinics, numbering 24, had 189,000 visits

KENTUCKY

Radiologist to Present Lectures—A series of lectures will be presented the week of April 16-22 at 12 noon in the amphitheater of the Louisville General Hospital by Dr H Dabney Kerr, professor of radiology, State University of Iowa College of Medicine, Iowa City, on roentgen therapy and the use of radium Members of the state association are invited

Grievance Committee in Operation—The recently organized grievance committee of the Kentucky State Medical Association, under the chairmanship of Dr Charles A Vance, Lexington, is now functioning According to Dr Vance, most of the complaints are concerned with fees charged The chairman is urging that patients with legitimate grievances send them to the committee member residing nearest the patient Other members are Drs Guy Aud, Louisville, Elbert W Jackson, Paducah, Oscar O Miller, Louisville, and J Watts Stovall, Grayson

MASSACHUSETTS

Public Health Problems of Atomic Energy—A course of lectures on the public health problems of atomic energy will be given under the auspices of the department of public health practice Harvard School of Public Health on Monday afternoon from 4 to 5 p m, Amphitheatre E, April 10 to May 29 The course is as follows

April 10 Public Health Problems of Atomic Energy and the Local Health Officer James S Simmons and Vlado A Getting Boston.

April 17 Introduction to Nuclear Physics Fundamentals Nuclear Fission and Chain Reaction Roger W Hickman Ph D Boston

April 24 Medical Aspects of Atomic Explosion William A Meissner Boston

May 1 Radiation Pathology and Pathologic Anatomy Shields Warren.

May 8 Essentials of Instrumentation Types of Instruments Special Uses and Limitation Improvisation Charles R. Williams, Ph D Boston

May 15 Public Health Aspects of Atomic Explosion James H Sterner Rochester N Y

May 22 Protection Passive Defense and Protection Nuclear Radiation Delayed Radiation in Relation to Professional Personnel and the Public, Arthur K Solomon Ph D Cambridge.

May 29 Radioisotopes and Their Public Health Implications Paul C. Aebersold Ph D Oak Ridge Tenn.

Interested physicians may apply for preregistration to the Secretary Harvard School of Public Health, 55 Shattuck Street, Boston 15

MICHIGAN

Gudakunst Memorial Lecture—Dr Charles Armstrong of the National Institutes of Health, Washington D C, will deliver the first Don W Gudakunst Memorial Lecture at the University of Michigan May 8 on the "Problem of Poliomyelitis"

Dr DeJong Succeeds Dr Camp as Department Chairman—Dr Russell N DeJong, associate professor of neurology, University of Michigan Medical School, Ann Arbor, has been promoted to professor and chairman of the department, succeeding Dr Carl D Camp who has held the position for the past 42 years and is being retired Dr DeJong has been associated with the university since he received his medical degree there in 1932 He was an instructor in neurology from 1934 until 1937, when he was promoted to the rank of assistant professor In July 1941 he was made associate professor of neurology Dr Camp joined the medical school as clinical professor of diseases of the nervous system, which title was changed to professor of neurology in 1920

NEW YORK

Cancer Detection Clinic—A new cancer detection center was opened in Lawrence Hospital in Bronxville February 14 Patients are referred to their own physician for future examinations and for treatment if necessary It is being sponsored by the Westchester Cancer Committee

Postgraduate Instruction—The Jefferson County Medical Society will hear Dr George P Heckel of Rochester N Y, speak on 'Practical Applications of Endocrines in Gynecology" at a meeting at 6 30 p m April 18 at the Black River Valley Club in Watertown Dr Mario F Tagliagambe of New York will address the society May 16 at the same time and place on 'Bursitis Sprains and Strains' On April 21 Dr Howard T Behrman New York, will address the Queens County Medical Society meeting at 4 p m at the society building in Forest Hills on Diagnosis and Treatment of Common Skin Diseases"

New York City

Alumni Day—The annual Alumni Day activities of the Long Island College of Medicine will take place April 29 There will be a scientific session at Polhemus Clinic in the morning followed by a dinner at the Columbus Club in Brooklyn at 7 p m The principal speaker will be Dr Jean A Curran, president of the college.

Janeway Lecture—The Edward G Janeway Lecture of the Mount Sinai Hospital of New York will be delivered by Dr Joseph L Lilienthal Jr, associate professor of medicine, Johns Hopkins University, Baltimore, April 13 at 8 30 p m in the Blumenthal Auditorium His subject will be 'The Role of the Neuromuscular Unit in Internal Medicine."

Survey Discharged Patients—New York University College of Medicine under a grant of $40 000 from the New York Foundation will make a two year survey of about 500 physically disabled persons who last year completed rehabilitation training in hospitals staffed by the university Its purpose is to determine on a large scale basis the effectiveness of physical medicine and rehabilitation technics in restoring disabled persons to normal living Persons to be included are former patients of Bellevue, Goldwater Memorial and University hospitals and the Institute of Physical Medicine and Rehabilitation The research project will be directed by Mrs Georgia F McCoy formerly a public assistance analyst for the Federal Security Administration. Headquarters for the survey will be in Bellevue Hospital

Hospital Honors Staff Physicians—In appreciation of 25 years of service a testimonial dinner was given to Dr Abraham M Rabiner on March 12 by the medical staff of the Jewish Sanitarium and Hospital for Chronic Diseases in Brooklyn Dr Rabiner is director of neurology and clinical director of the institution It was announced that the board of directors of the institution had established the Dr Abraham M Rabiner Research Fellowship Dr Rabiner has been instrumental in stimulating medical expansion and the creation of research facilities as well as the teaching program at the institution

NORTH CAROLINA

Postgraduate Course in Medicine—The School of Medicine and the Extension Division of the University of North Carolina Chapel Hill in conjunction with the Wake County Medical Society is sponsoring a postgraduate course in medicine at the University Hospital on Thursdays March 30-May 18 Afternoon sessions will begin at 4 and evening sessions at 8 o'clock. No meetings are scheduled for April 20 or May 4 Lecturers on succeeding weeks are Drs Helen B Taussig Baltimore, Joseph E Warren, Boston, Robert D Dripps Philadelphia, Richard H Overholt and William P Chapman, Boston, and Horace Hodes, New York

OHIO

Medical History Program.—The Ohio Committee of Medical History and Archives of the Ohio Archaeological and Historical Society and the American Association of the History of Medicine will hold a meeting April 15 at the State Museum, Columbus

Clinic and Lecture on Vascular Disease—Dr David I Abramson assistant professor of medicine at the University of Illinois College of Medicine Chicago will deliver the last lecture in the postgraduate course on peripheral vascular disease at the Mount Sinai Hospital of Cleveland on Physiologic Basis for Sympathetic Denervation of Blood Vessels as Therapy in Peripheral Vascular Disorders" The lecture will be held in the Auditorium Residence Hall, April 13 at 8 30 p m At 10 30 a m Dr Abramson will hold a clinic on peripheral vascular disease at the hospital The medical profession is invited.

OKLAHOMA

Nursing Problems of Poliomyelitis—A conference on the diagnosis and clinical management and nursing problems of poliomyelitis will be held in Enid April 11-12, under the sponsorship of the Garfield-Kingfisher County Medical Society The conference has been planned by the office of Postgraduate Instruction Oklahoma University School of Medicine. Dr Thomas Gucker of the Children s Hospital Boston will be the guest speaker and moderator The first day of the conference will be devoted to a discussion of diagnosis and clinical management of poliomyelitis and the second day to nursing problems associated with care of patients with poliomyelitis Physicians and nurses of northwest Oklahoma are invited to attend

PENNSYLVANIA

State Health Council—Dr Gilson C Engle chief surgeon of Lankenau Hospital Philadelphia, was selected president of the Pennsylvania Health Council which was formed at a meeting of representatives of some 42 health agencies of the commonwealth in Harrisburg February 11 The council is dedicated to the development of a health program for the state and will be patterned after the National Health Council The 42 agencies which became charter members will retain their independence but will work together in furthering a statewide health program The council s policy adopted along with by-laws states its objectives as follows "To assist in co-ordinating as far as possible, the planning and activities of all agencies concerned with community health to study health needs of the commonwealth by means of appropriate surveys inventories and fact finding activities to stimulate public interest in health needs and their solutions to help develop and promote constructive health programs, to propose constructive and needed legislation and to work for its enactment into law and to work cooperatively with local health councils William G Mather, Pennsylvania State College, was elected secretary and Edward M Green, Harrisburg treasurer

Philadelphia

Paraplegia Fellowship Fund—This fund has been created at the medical laboratories of the University of Pennsylvania for a new research program to aid crippled war veterans and other paraplegic victims The fund will be used exclusively for an investigative program for the relief of bedridden and wheel chair patients William Chambers, Ph D, assistant professor of anatomy at the university's school of medicine, has been selected to head the new project

Appoint Clinical Professor—Dr Louis Cohen has been named clinical professor of medicine at Temple University School of Medicine to succeed his brother, the late Dr Abraham J Cohen He has held the rank of associate professor of medicine at the university for several years, is chief visiting physician for the tuberculosis department of Philadelphia General Hospital and the Philadelphia General Hospital for Contagious Diseases, chief of the chest department at Montgomery Hospital in Norristown and chief of the pneumothorax clinic in Norristown for the state Dr Cohen has also been appointed medical director of Eagleville Sanatorium for Consumptives He has been associated with the sanitorium for 26 years, more recently as assistant medical director He is a graduate of the University of Pennsylvania School of Medicine (1923) and took postgraduate studies in Vienna

Pittsburgh

Health Department Reorganized—Based on recommendations following a survey in Pittsburgh by the U S Public Health Service, the city is reorganizing its department of public health with the support of 13 citizens' committees These committees concurrently with the U S Public Health Service served on the survey team The full reorganization program cannot be carried out entirely for several years An office of personnel and business management has been established A Bureau of Public Health Nursing has been established to bring together several separate nursing services into one unit District nursing offices will be established having the boundaries as those of the visiting nurses association A director of the maternal and infant program has been appointed to take over the responsibility for the development of a coordinated program to assure prenatal care and infant and preschool health services The program is within the Division of Maternal and Child Health The Bureau of Inspection has been changed to the Bureau of Sanitation to imply educational methods rather than inspection Provision has been made for a director of tuberculosis control, an appointment to increase the case-finding program and adequate follow-up procedures and hospitalization when indicated The local tuberculosis societies are furnishing the city with the salary for one social worker and the beginning of a social service department at Leech Farm Sanatorium, the city tuberculosis hospital

VIRGINIA

Clinical Assembly in Alexandria—The Alexandria Virginia Medical Society will hold a Clinical Assembly on April 16 at the Ficklin School Auditorium in Alexandria The speakers will be

Custis Lee Hall Washington, D C, *Immediate Treatment of Fractures*
J Mason Hundley Jr, Baltimore Vaginal Bleeding
Theodore E Woodward Baltimore Clinical Application of the Newer Antibiotics and Their Limitations
Alexander J Schaffer Baltimore Pediatric Emergencies
Robert J Coffey, Washington D C Acute Surgical Abdomen
Harvey J Tompkins Washington D C Psychiatric Emergencies and What the Medical Man Can Do
J Edward Berk, Philadelphia Treatment of Duodenal Ulcer
Sidney Scherlis Baltimore, Acute Cardiac Emergencies

The registration fee will be $2, which will include the luncheon and a cocktail party to close the session Registrations may be mailed to Alexandria Medical Society, P O Box 192, Alexandria

WEST VIRGINIA

County Society Program—The regular monthly meeting of the Kanawha Medical Society, scheduled for April 11, at the Daniel Boone Hotel in Charleston, will consist of a scientific program only, to begin at 4 p m Dr John H Mitchell of Columbus, Ohio, president-elect of the American College of Allergists, will discuss "Allergy and the Emotions" He will be followed by Dr Leon S Smelo, of Birmingham, Ala, speaking on "Insulin Resistance" The evening program will begin at 8 p m, when Dr Smelo will address an open meeting on "A Quarter Century of Diabetes" and Dr Mitchell will discuss "Can Worry Make Me Sick?" An invitation has been extended by the medical society to all members of the West Virginia State Medical Association to attend these sessions The public is invited to attend the evening session with members of the medical profession

WISCONSIN

Postgraduate Clinics—The State Medical Society of Wisconsin and the State Board of Health are presenting postgraduate teaching clinics during April and May as follows Southern Circuit April 25 at the Dell View Hotel in Lake Delton, April 26 at the Hotel Monterey in Janesville, April 27 at the Racine Country Club in Racine. Lecturers on the program, which begins at 1 p m and extends through 9 p m, will be Drs M Edward Davis, Chicago, Ovid O Meyer, Madison, Harry R Foerster and Walter P Blount, both of Milwaukee Northern Circuit May 23, Hotel Northern, in Chippewa Falls, May 24, Public Service Building, Wausau, May 25 Hotel Beaumont, Green Bay Lecturers will be Drs Sture A M Johnson and John L Sims, Madison, Francis R Janney, Wauwatosa, and Charles S Rife, Milwaukee. Reservations, which include dinner, are $5 All members of the society are invited to participate

GENERAL

Dr Rall Wins Van Meter Prize—The Van Meter Prize Award of the American Goiter Association was presented to Dr Joseph E Rall, fellow in medicine at the Mayo Foundation, Rochester, Minn, for his essay "Radioiodine in the Blood and Urine of Man" He presented the paper at the meeting of the association in Houston, Texas March 9-11

Rumania Withdraws from WHO—Rumania announced its withdrawal from the World Health Organization in a cable received Feburary 21 by Dr Brock Chisholm, WHO director-general Expressing dissatisfaction with activities carried out thus far by WHO, the cable from Bucharest follows similar action taken during the course of the past year by the USSR, the Byelorussian SSR, the Ukrainian SSR and Bulgaria The decision of the five governments to discontinue participation in the work of WHO will be submitted to the third World Health Assembly at Geneva, May 8 WHO's constitution makes no provision for withdrawal by member governments

Interim Meeting of Neurologists—The American Academy of Neurology, formed in 1948, will hold its first interim meeting April 14-15 at the Hotel Netherland Plaza in Cincinnati The academy will hold a joint symposium on psychomotor epilepsy with the American Chapter of the International League Against Epilepsy Saturday at 2 p m Dr Albert Sabin, professor of research pediatrics at the University of Cincinnati College of Medicine, will speak at a luncheon meeting Friday on "Where Are We and Were Are We Going in the Investigation of Virus Diseases of the Nervous System?" Dr Gustav Eckstein, Cincinnati, will be the banquet speaker Friday evening, his subject will be "A Visit to Pavlov in Leningrad" The Ladies' Auxiliary will meet in conjunction with the academy

Scholars in Medical Science—The John and Mary R Markle Foundation has named 20 medical scientists as the third group of Scholars in Medical Science as part of a five year program to keep young doctors on teaching and research staffs of medical schools The sum of $500,000 has been appropriated for their support, to be alloted in grants of $25,000 each at the rate of $5,000 a year to the medical schools in which they hold faculty appointments Under the program, now in its third year, a total of 48 doctors will be aided with grants amounting to $1,200,000 The scholars were selected from candidates proposed by medical schools in the United States and Canada and interviewed by regional committees appointed by the foundation The purpose is to afford them academic and financial security to develop at their own pace

Book Royalties to Finance Neurological Research—John Gunther, author of "Death Be Not Proud" has turned over part of the royalties from his book to Columbia University for research in neurologic surgery in children, and the publishers have also contributed earnings from the book to the research project The John Gunther Jr Memorial Fund has thus been established in the department of neurologic surgery at Columbia, where John Gunther Jr was treated before his death in June 1947 Royalties have been given to the Hebrew University in Jerusalem also for cancer research, and another fund has been set up at the Deerfield Academy, Deerfield, Mass, where the youth was an honor student in science, to equip an infirmary laboratory and to establish a scholarship in physics As future royalties come in, a proportionate share will be given to each of the projects

Mental Health Week—To focus public attention on prevention of mental illness for effective living Mental Health Week will be observed April 23-30 This year's Mental Health Week is being sponsored by a broad group of organizations headed by the National Committee for Mental Hygiene, New York, The National Mental Health Foundation, Philadelphia, the National Institute of Mental Health, Washington, D C., the American Psychiatric Association, Washington D C., and *the Junior Chamber of Commerce.* National offices of mental health groups, as well as religious, governmental, welfare and other civic organizations are supplying their state and local divisions with educational materials The Executive Committee for Mental Health Week is composed of Alberta Altman, National Institute of Mental Health Nina Ridenour, National Committee for Mental Hygiene, William H Savin, Massachusetts Society for Mental Hygiene, and Alex. Sareyan of the National Mental Health Foundation, who is serving as temporary executive secretary for the committee.

Seminar on World Health —The World Federation of United Nations Associations, Paris, France, has announced that a second "Seminar on World Health' to acquaint medical students and physicians with international health problems will be held in Geneva, Switzerland, May 8-19 Medical and public health specialists attending the Third World Health Assembly, which begins May 8 in Geneva will lecture and conduct discussion groups as part of the seminar Participants will also be given an opportunity to attend sessions of the Health Assembly and of its main committees A similar gathering was held last year in Rome at the time of the Second World Health Assembly Medical students and physicians interested in attending should address the World Federation of UN Associations Education Commission, UNESCO House 19 Avenue Kleber, Paris 16^e^, France.

International Cancer Congress —The Fifth International Cancer Congress will be held in Paris, France, July 15-22 under the presidency of Dr A Lacassagne, Institute du Radium, Rue d'Ulm 26, Paris (5^e^), France. The congress is sponsored by the Union Internationale Contre le Cancer, 6 Avenue Marceau, Paris (8^e^) France. Edmund V Cowdry, Ph D, Washington University School of Medicine, St. Louis 10 Mo, is the union's vice president for the United States The chairman of the program committee is Dr Charles Oberling, directeur de l'Institut du Cancer, Av Vaillant Conturier 116, Villejuif, (Seine) France. William U Gardner, Ph D, Yale University School of Medicine, New Haven, Conn is a member of this committee receiving titles and abstracts of papers to be presented from the United States No invitation to the congress is required *Those expecting to attend should promptly notify the union,* pay a small registration fee and request reservation of the hotel accommodations desired

Communicable Disease Summary —For the week ending March 11 reported cases of influenza increased from 24 705 to 27,045, according to the U S Public Health Service. For the corresponding week last year 3,948 cases were reported The five year (1945-49) median is 5 532 The cumulative total is 115,946 as compared with the corresponding total of 45 307 for 1949 and 165 882 for 1946, the highest year during the last five years Relatively large increases were reported in Iowa (from 35 to 159), South Carolina (from 88 to 389), West Virginia (from 974 to 2,047), and Wisconsin (from 80 to 209) The 10 highest states in number of cases reported are Alabama (521), Arkansas (788), Colorado (424), Montana (1 007), Oklahoma (2,072), South Carolina (389), Tennessee (589), Texas (11,124), Virginia (6,534) and West Virginia (2,047) The total of these 10 states is 25,495 Among the other states 10 reported no cases and 3 states reported 1 case each Reported incidence of meningococcic meningitis totaled 103 for the week as compared with 87 last week, 73 for the corresponding week of 1949 and a five year median of 90 Reported incidence of typhoid and paratyphoid fever increased from 45 to 63 cases and tularemia from 20 to 30 One case of smallpox was reported in South Dakota, 2 cases of psittacosis were reported in Steubenville, Ohio and 1 case each of anthrax was reported in Delaware and Massachusetts

Gordon Research Conferences —These conferences formerly known as the Gibson Island Research Conferences, will be held from June 26 to September 1 at the Colby Junior College, New London, N H, on vitamins and metabolism The conferences were established to stimulate research in universities, research foundations and industrial laboratories and are sponsored by the American Association for the Advancement of Science. Sufficient time is available to stimulate informal discussions among the members of a conference. The primary purpose of the program is to bring experts up to date as to the latest developments analyze the significance of these developments and to provoke suggestions as to underlying theories and profitable methods of approach for making new progress In order to protect individual rights and to promote discussion it is an established rule that all information presented is not to be used without specific authorization of the person making the contributions whether in formal presentation or in discussion. No publications are prepared as emanating from the conferences The morning sessions Monday through Friday are scheduled from 9 a m through 12 noon The second session of each day is held from 7 30 to 10 p m, Monday through Thursday There are no Friday evening meetings Accommodations are available for a limited number of women participants and for wives who wish to accompany their husbands Requests for such accommodations should be made at the time of the request for attendance, as they will be assigned in the order they are received. Children under twelve years of age cannot be accommodated Applications for the conferences should be sent to the director on or before April 20 Each applicant must state the institution or company with which he is connected and the type of work in which he is most interested Attendance at each conference is limited to 100 For additional information address W George Parks Director, Department of Chemistry, Rhode Island State College, Kingston, R I From June 20 to September 1 mail should be addressed to Colby Junior College New London, N H

Dr. ... Medical Library
C. ... Medical College
32669

Annual Meeting of Pathologists and Bacteriologists — The American Association of Pathologists and Bacteriologists will hold its annual meeting in the Auditorium of the Service Memorial Institute University of Wisconsin Medical School, Madison, April 13-15 under the presidency of Dr Shields Warren, Boston Those presenting papers by invitation include

John P Wyatt, St. Louis Generalized Cytomegalic Inclusion Disease.
Joseph A Cunningham Birmingham Ala Tissue Reactions Associated with Radial Inclusions in Giant Cells
F S Vogel, New York A Lipolytic Enzyme in Reactive Histiocytes of Guinea Pigs with Experimental Encephalomyelitis
Ephraim Woll, Mr Albert C Dornbush and Paul A. Little M S Burlington Vt. Morphologic and Bioassay Findings in Rous Sarcoma in Dietary or Antagonist Induced Folic Acid Deficiency
W Jann Brown and Lent C Johnson Washington D C Inflammatory Pseudotumors of the Pleura.
Gustav J Dammin Frank J Dixon and Samuel C Bukantz St Louis Effect of Immunity and X radiation on the Metabolism of I^131^ Labelled Antigenic Proteins
Levin L. Waters New Haven Conn Changes in the Coronary and Visceral Arteries of Dogs Following Large Doses of Epinephrine
John R Haserick Cleveland Blood Factor in Acute Disseminated Lupus Erythematosus
James C. Gale Detroit Electron Microscopic Studies of Collagen from Normal and Diseased Tissue
Jerome Gross Cambridge, Mass Study of the Aging of Collagenous Tissue of Rat Skin with the Electron Microscope
Samuel K. Elster Washington D C Effect of Ascorbic Acid Deficiency on the Collagen Content of Guinea Pig Tissues
Paul Klemperer New York Concept of Collagen Diseases
Murray R. Abell and James M R. Beveridge Ph D London Ontario Canada Hepatic Necrosis Induced by Dietary Means
Theodore Robertson New York Influence of Coronary Atherosclerosis and Myocardial Hypertrophy on the Flow Capacity of the Coronary Circulation as Determined Postmortem
Dorin L Hinerman Ann Arbor Mich Changes in the Pancreatic Islets of Langerhans in Addison s Disease
Wilfred E Toreson Montreal Canada Glycogen Infiltration in the Pancreas in Experimental and Human Diabetes Mellitus

The annual dinner will be held at the Loraine Hotel Friday at 7 p m The International Association of Medical Museums meeting at the medical school on April 13, is invited to attend

CORRECTION

Deformities in Rheumatoid Arthritis —In the abstract of the discussion by Dr Robert L Preston in The Journal March 11, page 719, in the thirteenth line from the bottom of this discussion the word ' fibula" is erroneous and should have been 'tibia ' In the seventh line from the bottom of Dr Preston's discussion the word patellar' should have been "passive."

Marriages

Joseph Francis Morabito Massillon Ohio to Miss Catherine Marie Mihala in Bethlehem Pa in January

Roy Hamilton Ott Jr, White Plains N Y, to Miss Elizabeth Marie Jones in Forest Hills February 11

John Thomas Craighead Denver to Miss Mary Holloway Fulton of Greenwich, Conn., February 11

Nathaniel David Yingling Clearfield Pa., to Miss Ada Ruth Howe in Philipsburg February 11

George D Blydenburgh Delaware Ohio to Miss Jinx Lentfoehr of Milwaukee January 16

Alanson Hinman, Baltimore, to Miss Alice Frazer Williams of Rockville, Md., January 28

Francisco A Molina, Havana Cuba, to Miss Sara Doyle of Chicago September 6

Harold Korner to Miss Sonia Sandberg both of Brooklyn February 12

Deaths

Ralph Hayes Hofler ⊕ Medical Director, Captain, U S Navy, retired, Washington, D C , born in Gatesville, N C, July 2, 1899, University of Maryland School of Medicine, Baltimore, 1925, entered the naval service as a lieutenant (jg) and served his internship at the Naval Hospital in Portsmouth, Va , had duty on board the *USS Arkansas, McFarland, Kanawah* and the *Enterprise,* and served one year with the Civilian Conservation Corps, in January 1942 was retired for physical disability, requested that he be retained on active duty and was assigned to the office of Naval Officer Procurement in Washington, in 1943 was transferred to the Naval Dispensary, Naval Department, Washington, D C, as senior medical officer of the Arlington Annex Branch, where he remained until his hospitalization late in 1949, died February 12, aged 50, of rupture of the aorta

Herbert Dodge Pease, Richmond Hill, N Y , born in Boston Oct 25, 1870, University of Toronto Faculty of Medicine, Toronto, Ont, Canada, 1893, resident pathologist for the Thomas Wilson Sanitarium for Children in Baltimore in 1894, first assistant bacteriologist, department of health in Philadelphia from 1895 to 1898, bacteriologist for the New York State Pathological Laboratory in Buffalo from 1898 to 1900, instructor in bacteriology at the Sheffield Scientific School, Yale, in 1901, director of the antitoxin hygienic laboratory state department of health in New York from 1901 to 1909, director of the Lederle Laboratories from 1909 to 1918, member of the American Association of Pathologists and Bacteriologists and the Society of American Bacteriologists, died in Springfield, Mass, February 14, aged 79, of cerebral thrombosis and general arteriosclerosis

Archibald Alexander Barron ⊕ Charlotte, N C , born in York County, S C Nov 4, 1886, Vanderbilt University School of Medicine, Nashville, Tenn, 1909, specialist certified by the American Board of Psychiatry and Neurology, Inc, and the American Board of Internal Medicine, member of the Southern Psychiatric Association and American Psychiatric Association, fellow of the American College of Physicians, past president of the North Carolina Neuropsychiatric Association, served during World War I, member of the board of the Mental Hygiene Society of Charlotte, affiliated with Mercy Hospital, Presbyterian Hospital and Memorial Hospital, where he died February 8, aged 63, of coronary occlusion

Charles Ten Eyck La Moure, Windham, Conn , born in Albany, N Y March 29, 1872, Albany (N Y) Medical College, 1894, member of the American Medical Association specialist certified by the American Board of Psychiatry and Neurology, member of the American Psychiatric Association, councilor of the Seventh District of the Connecticut State Medical Society, formerly superintendent of the Mansfield State Training School and Hospital in Mansfield Depot and the Gardner (Mass) State Colony, served on the staff of the Rochester (N Y) State Hospital, died February 16, aged 77

Aubrey Crafton Gose ⊕ Memphis, Tenn , Duke University School of Medicine, Durham, N C, 1937, formerly assistant professor of pathology at the University of Tennessee College of Medicine, certified by the National Board of Medical Examiners, specialist certified by the American Board of Pathology, member of the College of American Pathologists and the American Society of Clinical Pathologists, served during World War II, formerly affiliated with the U S Marine Hospital and Methodist Hospital, died in Hughesville, Ark, February 8, aged 37, of an accidental gunshot wound

Howard Nelson Kingsford ⊕ Hanover, N H , born in Providence, R I, in 1871, Dartmouth Medical School, Hanover, 1898, professor of pathology and bacteriology emeritus at his alma mater, where he became professor in 1901 and held that position until 1941 when he retired, served as chairman and president of the state board of registration in medicine, formerly medical director at Dartmouth College, affiliated with the Mary Hitchcock Memorial Hospital, died February 9, aged 78, of carcinoma of the prostate with metastases

Samuel Harbourne Baldwin, South Orange, N J , College of Physicians and Surgeons, medical department of Columbia College, New York, 1894, veteran of the Spanish-American war, member of the American Medical Association, for many years affiliated with the Newark Eye and Ear Infirmary, died in Lutheran Memorial Hospital, Newark, January 23, aged 78

John Currer Barton, Washington, D C , University of Minnesota Medical School, Minneapolis, 1935, member of the Minnesota State Medical Association, American Psychiatric Association and the American Medical Association, certified by the National Board of Medical Examiners, served during World War II, medical consultant to the claims service of the Veterans Administration, died in Mount Alto Hospital February 12, aged 43

Alfred Bornmann ⊕ Brooklyn, New York Homeopathic Medical College and Hospital, New York, 1899, on the staffs of the Carson C Peck Memorial, St John's and Methodist hospitals, died February 8, aged 71, of coronary thrombosis

Andrew Callahan ⊕ Philadelphia, Medico-Chirurgical College of Philadelphia, 1899, served as assistant professor of medicine at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania, on the staffs of Philadelphia General and Rush hospitals, died February 17, aged 75, of coronary occlusion

Emmett Grady Causey, Cassville, Mo , University of Louisville (Ky) School of Medicine, 1932, member of the State Medical Association of Texas and the American Medical Association, served during World War II, died in the Veterans Administration Hospital, Fayetteville, January 25, aged 47

William Gay Christian, Barboursville, Va , University of Virginia Department of Medicine, Charlottesville, 1889, formerly professor of the descending anatomy at the Medical College of Virginia in Richmond, author of "Textbook of Anatomy for Nurses" and "Textbook of Physiology for Nurses", died January 21, aged 87

Dallis Lowell Cornwell ⊕ Brownsville, Ky , Vanderbilt University School of Medicine, Nashville, Tenn, 1916, served during World War I, died January 28, aged 61, of coronary occlusion

Thomas Arthur Coyne, Assumption, Ill , Loyola University School of Medicine, Chicago, 1923, member of the American Medical Association, served in the Spanish-American War and the Philippine Insurrection, died in Huber Memorial Hospital, Pana, February 7, aged 70

Aloysius A Daly, New York, New York Homeopathic Medical College and Flower Hospital, New York, 1917, member of the American Medical Association, died February 17, aged 62, of coronary thrombosis

Van Cleft Decker, Nicholson, Pa., Jefferson Medical College of Philadelphia, 1896, member of the American Medical Association, past president of the Wyoming County Medical Society, served during World War I, for many years associate judge in Wyoming County and president of the school board of Nicholson, served as president of the Factoryville Bank, past president of the Rotary Club, died in Moses Taylor Hospital, Scranton, February 4, aged 80, of a skull fracture received in a fall

Herbert Sperry DuCret, Brooklyn, New York Homeopathic Medical College and Flower Hospital, New York, 1912, member of the American Medical Association, served on the staffs of the Carson C Peck Memorial and Cumberland hospitals, an officer in the U S Army and British Army during World War I, awarded the Purple Heart Medal and the British Military Cross, died in Tucson, Ariz, February 27, aged 61

Joseph Marion Dowis, Dallas, Texas, University of Texas School of Medicine, Galveston, 1926, member of the American Medical Association, at one time taught preventive medicine at Southwestern University Medical College, epidemiologist for the city health department for many years, director of the outpatient clinic, Parkland Hospital, died February 10, aged 48, of coronary occlusion

William Henry Durkee, Fulton, Ill , Keokuk (Ia) Medical College, 1897, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1904, member of the American Medical Association, past president of the Whiteside County Medical Society, for many years member and for a time president of the board of education, died February 4, aged 82, of bronchopneumonia

John Gillman Dwyer ⊕ Cullom Ill , Chicago College of Medicine and Surgery, 1913, died in Mercy Hospital, Urbana, in February, aged 57, of carcinoma of the lung

Edward Raymond Easton ⊕ New York, Columbia University College of Physicians and Surgeons, New York, 1915, fellow of the American College of Surgeons, a medical officer in the army during World War I, served on the staffs of St Clare's, Knickerbocker and St Vincent's hospitals, died in the Beekman-Downtown Hospital February 3, aged 57, of cerebral hemorrhage.

⊕ Indicates Fellow of the American Medical Association

Garland Augustus Ellis, Stamps, Ark., Meharry Medical College, Nashville, Tenn, 1912 died January 15, aged 62

Guy David Engle ⊕ Wilkinsburg Pa , University of Pennsylvania Department of Medicine, Philadelphia, 1901, died February 6 aged 73 of coronary occlusion.

Peter Edward Fagan, Hazleton, Pa , Jefferson Medical College of Philadelphia 1909, member of the American Medical Association, served during World War I, medical examiner for the city schools died in Hazleton State Hospital February 17, aged 66, of cardiac failure.

Aaron Grant Fairfax, Chicago, Illinois Medical College, Chicago 1910, member of the American Medical Association, died February 23, aged 70

Frederick William Fiedler, Memphis Tenn , University of Tennessee Medical Department, Memphis, 1913, associate professor of surgery at his alma mater member of the American Medical Association fellow of the American College of Surgeons, an officer during World War I, served on the staffs of the Baptist Memorial Hospital, John Gaston Hospital and the Gartly-Ramsay Hospital, where he died January 24, aged 62, of coronary occlusion

Frank Foncannon ⊕ Emporia, Kan , University of Pennsylvania School of Medicine, Philadelphia, 1914, fellow of the American College of Surgeons affiliated with St Mary s Hospital and the Newman Memorial County Hospital, where he died February 1, aged 60 of coronary occlusion

Stanley Leopold Freeman ⊕ Kingston, Pa., University of Pennsylvania School of Medicine, Philadelphia 1910, fellow of the American College of Surgeons formerly on the staff of the Wilkes-Barre (Pa) General Hospital, died in New York February 22, aged 60, of coronary thrombosis

Theron Earle Fuller ⊕ Texarkana, Texas, Vanderbilt University School of Medicine Nashville, 1908, specialist certified by the American Board of Ophthalmology and the American Board of Otolaryngology member of the Arkansas Medical Society, American Academy of Ophthalmology and Otolaryngology and American Laryngological, Rhinological and Otological Society, fellow of the American College of Surgeons, affiliated with Texarkana Hospital, died February 1, aged 65, of coronary occlusion.

Samuel Howard Garst ⊕ Staunton Va , University of Virginia Department of Medicine, Charlottesville, 1931 fellow of the American College of Surgeons, past president of the Augusta County Medical Society affiliated with King s Daughters Hospital where he died February 7, aged 43, of coronary thrombosis

William Rion Gibbs ⊕ Buffalo S C , Medical College of the State of South Carolina Charleston 1929 died in the Charlotte (N C) Memorial Hospital February 5, aged 44, as the result of injuries received in a fall

Edgar Giles, Avalon Miss University of Nashville (Tenn) Medical Department, 1908 member of the American Medical Association, died January 17, aged 67, of coronary thrombosis

William Wendell Hala ⊕ Monroe, N Y , University of Maryland School of Medicine, Baltimore 1905 formerly associate professor of pathology at the Long Island College of Medicine specialist certified by the American Board of Pathology served on the staffs of the Caledonian Carson C Peck Memorial and Bushwick hospitals, all in Brooklyn, died February 11, aged 65

Robert Henry Harrison, Houston, Texas, University of Texas School of Medicine Galveston, 1898, local surgeon for the Southern Pacific Railroad died in Hermann Hospital February 3 aged 73 of cerebral hemorrhage

Wilbur James Hawkins Jr ⊕ Fredericktown, Pa , Jefferson Medical College of Philadelphia, 1933, served during World War II died January 23, aged 43

Cyrus Eugene Hawks ⊕ Rockville Md , University of Maryland School of Medicine and College of Physicians and Surgeons Baltimore 1921 fellow of the American College of Chest Physicians affiliated with Doctors, Georgetown University and Sibley Memorial hospitals in Washington D C, Montgomery County General Hospital in Olney Suburban Hospital in Bethesda and Maryland General Hospital, Baltimore, died December 16 aged 57, of intestinal obstruction

Simeon Louis Hebert, Manchester, N H , University of Vermont College of Medicine, Burlington, 1926 member of the American Medical Association, served during World War II, affiliated with Notre Dame de Lourdes Hospital, died January 17, aged 49 of cerebral hemorrhage

Max F Herrman ⊕ Philadelphia University of Pennsylvania Department of Medicine, Philadelphia, 1902 affiliated with St. Joseph s and Jewish hospitals, died February 8 aged 68 of coronary thrombosis

Joseph Carbaugh Hess, Philadelphia, Jefferson Medical College of Philadelphia, 1924 member of the American Medical Association served during World War I affiliated with the Graduate Hospital American Hospital for Diseases of the Stomach, Doctors and Episcopal hospitals died February 4 aged 56, of carcinoma of the pancreas

Thomas R Holland ⊕ Washington D C., Medico Chirurgical College of Philadelphia, 1911 affiliated with the Veterans Administration died in Emergency Hospital February 4 aged 61, of acute congestive heart failure.

Robert Browne S Ishmael, Winchester Ky Kentucky School of Medicine, Louisville, 1897 president of the Peoples State Bank and Trust Company died January 5 aged 73 of cerebral hemorrhage due to chronic lymphatic leukemia.

Roy Ross Jamieson ⊕ Chicago Northwestern University Medical School Chicago 1913 specialist certified by the American Board of Internal Medicine fellow of the American College of Physicians, associate in medicine at his alma mater served during World War I affiliated with Jackson Park Hospital, died in St Luke's Hospital February 24 aged 68 of coronary thrombosis

Oliver Anderson Jeffreys, Huntington Park, Calif Rush Medical College Chicago, 1905, died in Los Angeles January 20, aged 68, of coronary thrombosis

Louis Matthew Kane ⊕ Los Angeles Northwestern University Medical School Chicago, 1912, fellow of the American College of Surgeons, on the associate staff of California Hospital, on the active staff of St. Vincent s Hospital where he died February 8 aged 65 of myocardial infarction

Joseph Wesley Kimberlin, St. Petersburg Fla. University Medical College of Kansas City Mo, 1900 specialist certified by the American Board of Ophthalmology in 1923 member of the House of Delegates of the American Medical Association, served during the Spanish-American War and World War I, formerly practiced in Kansas City, Mo died in the Veterans Administration Hospital, Bay Pines February 1, aged 76

Francis Gerald King ⊕ Quincy Mass , Georgetown University School of Medicine, Washington D C 1930 member of the New England Obstetrical and Gynecological Society served during World Wars I and II, died in Massachusetts Memorial Hospital, Boston, February 8 aged 49

William James Charles Lamb, Homestead, Pa University of Southern California College of Medicine Los Angeles, 1896 Georgetown University School of Medicine, Washington, D C, 1903, died February 6, aged 83

William Henry Lange, Chicago, Loyola University School of Medicine, Chicago 1919, member of the American Medical Association, on the staff of Bethany Hospital, died December 1, aged 57

Leslie Mac Lisle ⊕ Columbus Ohio Starling Medical College, Columbus, 1902 on the staff of Mount Carmel Hospital died December 12 aged 72 of Hodgkin s disease.

Marcy Joseph Lyons ⊕ New Orleans Medical Department of Tulane University of Louisiana New Orleans 1914 member of the American Association of Industrial Physicians and Surgeons co-director of the medical department of the New Orleans Public Service affiliated with the Southern Baptist Hospital and Hotel Dieu Sisters Hospital died February 3, aged 59, of congestive heart failure.

Kenneth Ewing McCamey, Paterson N J University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1916 served on the staff of St Joseph Hospital, for many years medical examiner for the Metropolitan and Prudential Life Insurance companies died in Fort Lauderdale Fla, January 26 aged 56 of coronary occlusion

Earle Francis McGrath ⊕ Appleton Wis Milwaukee Medical College, 1912, member of the Radiological Society of North America died in Seabright Fla., February 3 aged 61

George W McMillen, Covington Ky Kentucky School of Medicine Louisville 1894 died in St Elizabeth Hospital January 8 aged 80 of bronchopneumonia

Byron William Marshall ⊕ Phoenix Ariz. Indiana Medical College, School of Medicine of Purdue University Indianapolis, 1906, at one time practiced in Gary, Ind died February 9, aged 72, of uremia and arteriosclerotic cardiovascular renal disease

Paul Daniel Michelson Jr, San Francisco, College of Physicians and Surgeons of San Francisco, 1920, member of the American Medical Association, served during World War I, affiliated with St Joseph's Hospital, died January 1, aged 56, of coronary occlusion

Jack Beals Moore ⊕ Fresno, Calif , Stanford University School of Medicine, San Francisco, 1928, served in the medical corps of the Army during World War I, a member of the county board of health, died February 19, aged 53, of heart disease

Laurence Moses Moore, Benton, Ill , University of Illinois College of Medicine, Chicago, 1930, member of the American Medical Association, served during World War II, died in Moore Hospital February 8, aged 48

Ruth Lillian Popp Mosch, Coudersport, Pa , University of Pennsylvania School of Medicine, Philadelphia, 1946, member of the American Medical Association, on the staff of Potter County Memorial Hospital, died in February, aged 27

Roy Adelbert Morse, Tacoma, Wash , University of Colorado School of Medicine, Denver, 1913, served during World War I, member of the American Medical Association, died recently, aged 60

Edward Muentzer, San Francisco, Indiana University School of Medicine, Indianapolis, 1942, was found murdered February 18, aged 38

John Christian Muth ⊕ Yonkers, N Y , University and Bellevue Hospital Medical College, New York, 1912, fellow of the American College of Surgeons, served during World War I and later with the Army of Occupation in Germany, affiliated with Yonkers General Hospital and St John s Riverside Hospital, medical director of the Westchester Lighting Company, died January 31, aged 60, of coronary thrombosis

Sam Percy Myer, Louisville, Ky , Hospital College of Medicine, Louisville, 1900, member of the American Medical Association, affiliated with Norton Memorial Infirmary, died in the Kentucky Baptist Hospital January 28, aged 77, of coronary occlusion

Frank Louis Nathanson, Chicago, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908, died February 13, aged 68, of chronic myocarditis

Walter Willard Nauth, Winona, Minn , Wisconsin College of Physicians and Surgeons, Milwaukee, 1907, died in Sarasota, Fla , February 22, aged 66, of coronary occlusion

John William Neely, Spearman Texas, Tulane University of Louisiana School of Medicine, New Orleans, 1921, member of the American Medical Association, died in Snyder January 20, aged 52, of endocarditis

Eugene Phillips Neitz, Wellsville, Ohio, Ohio State University College of Homeopathic Medicine, Columbus, 1915, member of the American Medical Association, served during World War I, city council president for two years, city health commissioner, affiliated with the East Liverpool (Ohio) City Hospital, where he died February 7, aged 59, of heart disease, after a knee cap fracture suffered in a fall January 19

Norman William Neptune, Loudonville, Ohio, Jefferson Medical College of Philadelphia, 1903, died January 16, aged 80, of carcinoma of the prostate

Cobb Nichols, Jackson, Ala , Medical College of Alabama, Mobile, 1899, member of the American Medical Association, past president of the Clarke County Medical Society, veteran of the Spanish-American War, died in Mobile, Ala , February 3, aged 80

James Kindred Norman, Fort Worth, Texas, University of Arkansas School of Medicine, Little Rock, 1940, member of the American Medical Association and the American College of Physicians, specialist certified by the American Board of Internal Medicine, served with the U S Public Health Service during World War II, on the staffs of the Harris Memorial Methodist Hospital, City-County Hospital and St Joseph's Hospital, died January 31, aged 33

Byron Hicklin Paslay, Como, Miss , Kentucky School of Medicine, Louisville, 1906, member of the American Medical Association, formerly surgeon of the state penitentiary, died in Columbus February 13, aged 72

Joseph Petluck, New York, Tufts College Medical School, Boston, 1898, associated with the Harlem, Bronx, Fordham and Mount Sinai hospitals, died in Lebanon Hospital February 17, aged 80, of myocardial infarction

Harold Brabazon Plunkett, Lowell, Mass , Kentucky University Medical Department, Louisville, 1906, member of the American Medical Association, affiliated with Lowell General and St Joseph's hospitals, since 1935 on the staff of the Tewksbury (Mass) State Hospital, where he died February 10, aged 72, of adenocarcinoma of the large intestine

Fannie Dunn Quain ⊕ Bismarck, N D , University of Michigan Department of Medicine and Surgery, Ann Arbor, 1898, past president of the North Dakota Department of Public Health, died February 2, aged 75, of coronary thrombosis

Simon Harry Ratner, Miami Beach, Fla , University of Pittsburgh School of Medicine, 1912, member of the Medical Society of the State of Pennsylvania, specialist certified by the American Board of Otolaryngology, member of the American Academy of Ophthalmology and Otolaryngology, formerly practiced in Pittsburgh, where he served on the staff of Montefiore Hospital, died February 10, aged 59, of acute coronary occlusion and cerebral hemorrhage

James Walter Reeves ⊕ Los Angeles, College of Physicians and Surgeons, Los Angeles, 1913, fellow of the American College of Surgeons, for many years professor of anatomy and physiology at the University of Southern California School of Dentistry, on the staff of California Hospital, died in St. Luke's Hospital January 28, aged 64

David Martin Rettinger, Stockton, Ill , Chicago Medical School, 1945, died in St Francis Hospital, Freeport February 2, aged 29, of injuries received in an automobile accident

Robert Peter Roantree ⊕ Elko, Nev , Washington University School of Medicine, St Louis, 1919, president of the state board of medical examiners, past president of the Nevada State Medical Association, fellow of the American College of Surgeons, affiliated with Elko General Hospital, died February 21, aged 54, of coronary occlusion

Edwin P Rohrbaugh, Casper, Wyo , University of Maryland School of Medicine, Baltimore, 1881, died January 23, aged 91, of hypostatic pneumonia and cerebral hemorrhage.

Thomas Jerome Rubino, Brooklyn, Fordham University School of Medicine, New York, 1921, member of the American Medical Association, affiliated with St Vincent's Hospital, died February 3, aged 51

Bemon Creighton Scarbrough, Albertville, Ala , University of Tennessee College of Medicine, Memphis 1911, member of the American Medical Association, medical superintendent and owner of the Sand Mountain Infirmary, died January 17, aged 64, of coronary thrombosis

Stewart Seibert Shaffer ⊕ Mount Wilson, Md , University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1919, member of the American College of Chest Physicians and the American Trudeau Society, for many years superintendent of the Mount Wilson Branch Maryland Tuberculosis Sanatorium, died January 28, aged 57, of hypertension and cardiovascular disease

Vaughn Lee Sheets ⊕ Chicago, Chicago College of Medicine and Surgery, 1903, an Associate Fellow of the American Medical Association, fellow of the American College of Physicians, at one time on the faculty of his alma mater, formerly affiliated with the Frances E Willard Hospital, died in St Francis Hospital, Evanston, February 2, aged 80, of adenocarcinoma of the prostate

M Maxim Steinbach ⊕ New York, Long Island College Hospital, Brooklyn, 1916, member of the New York Academy of Medicine, New York Academy of Science and the Society of American Bacteriologists, research associate in bacteriology at Columbia University College of Physicians and Surgeons, affiliated with Montefiore Hospital, member of the medical board of the Hebrew Convalescent Home, died February 1, aged 60, of cancer

John B Stetson, Seattle, Medico-Chirurgical College of Philadelphia, 1896, member of the American Medical Association, died in Doctors Hospital January 31, aged 78

Dave S Stewart, Creston, W Va , Louisville (Ky) Medical College, 1884, died February 1, aged 101

Harry John Stewart ⊕ Oak Park, Ill , College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1897, fellow of the American College of Surgeons, affiliated with the West Suburban Hospital, where he died February 15, aged 75, of acute hypostatic congestion of the lungs and myocardial degeneration

Jacob Visser, Tacoma, Wash , Bennett Medical College, Chicago, 1890, died January 30, aged 79

John Lane Walker, Wartrace, Tenn , Vanderbilt University School of Medicine, Nashville, Tenn, 1894, died recently, aged 78

Foreign Letters

STOCKHOLM

(From a Regular Correspondent)

Feb. 15, 1950

Mass Radiography in Sweden

Since 1941 there has been a rapid extension of the use of mass radiography in Sweden. Much of the credit for it is due to the Swedish National Association against Tuberculosis. In 1946 on the urgent recommendation of the health authorities the Swedish Parliament decreed that mass radiography should be available for everyone beyond the age of 10 years on a voluntary basis and free of cost. This scheme was to have been completed in five years with one fifth of the nation examined every year. However, force of circumstances has extended this five year plan over eight years.

In his report on this scheme, Dr. Arne Nelson of Stockholm points out how its efficiency has depended on centralization, with the examination of roentgenograms at headquarters where six medical experts are employed to interpret them. During the first year of the scheme, 1.4 per cent of the roentgenograms sent to headquarters were technically faulty. This figure was reduced to 0.7 per cent in the second year and even this modest percentage has in all probability been still further reduced. The mass radiography units in the field do not include doctors; a mobile unit or mass radiography patrol consists of a nurse, a technician, a chauffeur and a secretary. In theory such a patrol can deal with about 500 cases a day except on the days when a unit is moving elsewhere, when this figure is reduced to about 400. Even this figure is apt to be an overestimate because the country is so thinly populated.

Since this scheme was put into force, on July 1, 1946, about 1.5 million persons have been examined; appreciation of its benefits has been so great that in one county in which these examinations have been completed, 96.7 per cent of the persons summoned for examination have undergone it. About 4 per cent of the persons first examined have been referred for further examination at a tuberculosis dispensary, and many nontuberculous intrathoracic lesions have been discovered, including tumors in 0.03 per cent.

Prospective Legislation against Quackery

In spite of the legislation of 1915 defining and limiting the right to practice medicine in Sweden, quackery recently has become so prominent that Richard Lindström proposes to submit the draft of a new law on this subject to the Swedish Parliament. The lay press has often taken a strong stand against abuse by advertisements. It also has often done yeoman service in educating the public in this field. Yet the urge to substitute superstition for reason when doctors cannot provide an effective cure is amazingly deep rooted and widespread.

The legislation of 1915 restricted the treatment of certain diseases to fully qualified doctors. It is a punishable offense to take money for the treatment of the venereal diseases, tuberculosis, cancer and certain infectious diseases. The unqualified practitioner may not give hypnotic treatment or administer a general anesthetic. And, in general terms, he may not undertake treatment involving danger to the life or health of his victims. To be a fully qualified doctor it is necessary to be a Swedish citizen and to have passed the necessary examinations.

In 1941 the Swedish public health authorities issued a memorandum in which the draft of a new law for the practice of medicine was outlined. A modified form of this draft may be endorsed by Parliament and become law. It proposes that the number of diseases and treatments hitherto reserved for the care of fully qualified doctors should be enlarged to include diabetes, among other diseases. The ban on hypnotic treatment may be extended to psychoanalysis and the ban on general anesthesia to local anesthesia. Furthermore the layman may no longer be free to tamper with the insane, the mentally defective or persons under the age of 18. Advertising may be forbidden for the quack and the title of doctor protected; such terms as "nature healer" and "skin healer" may be prohibited. It is also proposed that chiropractic, homoeopathy and eye or iris diagnosis are to be stamped as quackery.

The Obese Child

A recent study by Dr. Per Selander of the obese child points out that in Sweden everyone is fatter and taller than fifty years ago. At the present time a Swedish boy 12 years of age is 17 cm. taller and weighs 12 Kg. more than his counterpart half a century ago; this is due to a radical change in the nation's dietary. Recent world wars have shown how dietetic restrictions affect growth. But Dr. Selander admits that the overly fat child is in need of special attention. He is often an only child or the last child, the darling of his mother who loves to stuff him and to make him more dependent than ever on her as he becomes more and more shunned by his less corpulent playmates. Heredity plays an important part, and psychic disturbances may precipitate this condition—as may many of the infectious diseases. It is a common mistake to assume that hypofunction of the reproductive organs is to blame, and one may make this mistake by expecting the size of testicles to correspond to the outsize of the child. As Dr. Selander drily remarks, "it is very difficult, if it is ever possible, to demonstrate hypofunction of the gonads before the normal age of puberty is reached." He adds as a minor detail a warning with regard to the risk that the overly fat child may become flat-footed because of his weight.

BELGIUM

(From a Regular Correspondent)

Feb. 4, 1950

Medical Meetings in Antwerp

For the fourth time the medical days (meetings) have been held in Antwerp with great success. They were attended by numerous practitioners from Antwerp and other parts of Belgium. Important medical personalities from other countries participated in the session. Dr. Ronald Jarman, president of the Section of Anesthesia of the Royal College of Medicine of London, England, gave a demonstration on anesthesia. The scientific meetings were held in the civilian hospitals and in the military hospital, where Captain of Medicine Raedemacker presented a study on periodic paralysis illustrated by a motion picture on epilepsy and its treatment in the light of recent scientific advances. Dr. De Winter of Bruges presented part of his experience on the basis of twenty years in the practice of thoracoplasty in a total of 1,150 cases. Finally Professor D. Hons of Lille, France, spoke on the early diagnosis of pulmonary cancer.

Kernicterus

The Belgian Society of Neurology and the Society of Mental Hygiene of Belgium held a common meeting which was concerned with the study of kernicterus (nuclear icterus). Hubinont explained the connection between the pathogenesis of kernicterus and maternal isoimmunization and hemolytic disease of the newborn. Then Gerard presented a series of projections on livers, spleens and kidneys obtained from infants who died of severe icterus accompanied or not with kernicterus and fetal placental edema; he demonstrated anatomicopathologic modifications of the liver, spleen and kidney in the course of hemolytic disease of the newborn.

The anatomicopathologic study of kernicterus was presented by Dereymaeker who showed that (*a*) histologic lesions occur in the neural tissues in all cases of grave familial icterus whether or not the clinical syndrome shows neurologic involvement, an observation confirming the great frequency of cerebral changes

(b) parenchymal lesions of the nerves are not dependent on the presence of icteric pigment, the nervous changes predominate and they exist in the absence of any abnormal pigmentation, and (c) a systematic topography of icterus and neural changes does not exist The intensity of cerebral destructions varies from one case to another and is usually maximal in the paleostriatum and the neostriatum in the floor of the fourth ventricle, the olive of the medulla oblongata and the nucleus dentatus of the cerebellum

The etiologic role of isoimmunization in kernicterus is proved by experimental reproduction of the disease in rats and dogs and by the histologic demonstration of these nervous lesions Within the sphere of severe familial icterus no known factor outside of an immunologic reaction can explain the appearance of central nervous lesions At best one can attribute an aggravating role to prematurity and perhaps also to hepatic dysfunction The antibodies may change the hematoencephalic barrier, then they many penetrate into the nervous parenchyma and carry along other substances, such as bilirubin

Quinine in the Belgian Congo

Bruxelles-medical, the important Belgian medical journal has always advocated the cultivation of quinine in the Belgian Congo In a recent issue this publication gives an account of the activity of Stoffels, professor of colonial phytotechnics at the Agricultural Institute of Gembloux In the Congo Stoffels is called "the father of quinine" He has been one of the key workers in the station at Nulungu Tsibunda He fostered the cultivation of quinine and pyrethrum, and he succeeded in this effort because of his efforts for the improvement of the coffee plantations of Kivu For about ten years he failed to convince the colonial planters of the need for quinine cultivation and to interest them in this plant with its difficult, specialized and unpredictable cultivation problems In the course of the war the Japanese occupation of the Netherlands Indies, the established center of the cultivation of quinine, drew the attention of the allies to the cultivation of quinine in the Congo Although at that time the cultivation had not reached the development which it has reached now, it could help the allied armies which operated in Burma Not only is Kivu admirably suited for the cultivation of quinine, pyrethrum and Mocha arabica, but its subtropical climate suggests the possibility of introducing and cultivating plants for the preparation of perfume and certain varieties and species of medicinal plants which will bring excellent returns

Acrylic Prosthesis in Coxitis

Judet of Paris presented to the Belgian League Against Rheumatism the results which he obtained in the treatment of coxitis with an acrylic prosthesis He points out that the operation of Whitman (resection of the head of the femur) in the surgical treatment of coxitis is effective against the pain, but the functional results are seldom satisfactory (rigidity and shaking of the joint) To obviate these shortcomings Judet replaces the head of the femur by a plastic (acrylic) prosthesis which caps the cervical stump He has applied the same technic in cervical pseudoarthrosis in congenital dislocation of the hip joint and in coxofemoral ankylosis resulting from rhizomelic spondylitis To date 175 patients with coxitis have had operative treatment in 40 per cent the results have been excellent, 40 per cent have been improved 80 to 90 per cent and in the remaining 20 per cent the improvement has been less than 80 per cent No cases of intolerance to the plastic material have been encountered

Antimalarial Laboratory in the Congo

A laboratory for the study of the transmission of malaria between mosquitoes and mammals has been established on the high plateaus of Kundelungu (Katanga) This laboratory belongs to the section of antimalarial studies and research of Elisabethville

MADRID

(From a Regular Correspondent)

Feb 1, 1950

Endocrinology and Growth

Dr G Marañon, for more than forty years head of a Department of Endocrinology in Madrid, reviewed the progress of this study in a series of lectures at the Institute of Pathologic Medicine of Madrid He discussed the influence of environment and genetic factors on the process of growth

Growth may be differentiated into (1) somatogenetic, or growth in volume of the soft tissues, and (2) morphogenetic, or growth in length of skeletal structures Morphogenetic growth is controlled by the pituitary hormones, while the thyroid, gonads and adrenals combine to influence somatic growth In the embryo, however, somatic growth is also influenced by trophic factors from other endocrine glands, including the thymus, pineal body, pancreas and spleen The hypothalamus provides neurogenic control of the activity of the pituitary, thyroid, gonads and adrenals Environmental factors of importance to growth are adequate sunlight and oxygen, proper nutrition, prevention of disease and maintenance of satisfactory living conditions These factors help to maintain normal physical development by insuring proper nutrition and function of the endocrine system

Infantilism may be caused by genetic, endocrine, hypothalamic and exogenic factors It is more serious in the prepuberal age than in adolescents The condition is always associated with changes in the hypophysis, possibly influenced by nutrition and environment Inadequate growth is classified as (1) dwarfism with infantilism or (2) dwarfism without infantilism The first type is pituitary in origin, while the second may be due to hypergonadism or osseous dyscrasias such as achondroplasia Gigantism may begin in youth because of hypophysial hyperfunction and may or may not be associated with eunuchoidism and acromegaly

The chronologic relationships of puberty to sexual development were described by the lecturer as follows In boys at the age of 12 years the crisis of growing begins Morphogenetic growth occurs, but the body is of indefinite sexual type At 14 years of age puberal hair growth of feminoid type begins, and between ages 14 and 15 muscular and thoracic development takes place At 15 years of age the voice begins to change and axillary hair appears At age 16 the crisis of genital development occurs Between 17 and 18 years the beard begins growth In girls puberty occurs two years earlier At 10 years of age the crisis of morphogenetic growth begins Between the eleventh and twelfth years breast development and increased amplitude of the pelvis are noted At age 12 puberal hair growth of the typical feminoid type occurs At 13 years axillary hair develops Between 13 and 14 years of age menstruation begins and becomes established Between 15 and 17 years there is complete development of feminine morphology and psychology In boys there is an intersexual period between the early appearance of puberal phenomena and the establishment of puberty, while in girls an intersexual period does not occur at puberty although something similar to intersexuality occurs at the menopause.

There are certain clinical forms of precocious puberty, with or without macrogenitosomia These are constitutional, pituitary, pineal and hypothalamic They are clinically indistinguishable Hypothalamic precocious puberty is characterized by macrogenitosomia, skin dyschromia and motor disorders of the cataplegic type The adrenocortical type of precocious puberty corresponds to Pende's "matronism" and is the form most frequently seen in children Disturbances of sexual definition in girls may be pseudohermaphroditism, virilism and tendency to homosexuality, in boys, pseudohermaphroditism, cryptorchism, gynecomastia and also a tendency to homosexuality Moral and pedagogic influences are of great importance in the puberal age, since there is no efficacious treatment of the constitutional and hypothalamic forms of sexual disorders The pituitary adrenocortical and gonadal forms of early puberty or delayed puberty are amenable to endocrine or surgical treatment. In surgical treatment of virilism total extirpation of the affected adrenal gland is advocated, because remnants may become hypertrophic and cause a continuation of the clinical phenomena Homosexuality in both sexes is occasionally amenable to psychotherapy Pseudohermaphroditism may be benefited by plastic operations Cryptorchism is benefited by endocrine and surgical treatments Effective therapy for gynecomastia is unknown

From a clinical point of view, growth and metabolism are interrelated The hormonal substances which control growth, also control hunger and thirst Hormonal disorders are the etiologic factors of either obesity or thinness in children The two are adaptations of the body to metabolic disorders due to which certain physiologic needs are not satisfied The administration of neither thyroid nor insulin with the aim of causing either loss or gain of weight, is indicated because the conditions are usually due to endogenous causes

Obesity in children is either the plethoric or the asthenic (the genital adipose) type. In the asthenic type there is delayed puberty, pallor and an aspect of femininity Frohlich's syndrome is the hypothalamic form and is associated with dystrophy and general adiposis A transient adipose genital syndrome occurs which is hypothalamic and hypophysial in origin and results in short stature Another transient adipose genital syndrome of predominantly genital origin results in high stature The Laurence Moon-Biedl syndrome is another example of the asthenic genital adipose type of obesity Plethoric obesity may appear in any of the following clinical forms obesity with hypophysial basophilism (glycosuria, hyperglycemia, hypercalcemia, cyanotic striation and other signs of Cushing s syndrome), obesity of hyperadrenocortical type with polyphagia and virilism, obesity of the Gallais type which is more plethoric than Cushing s syndrome, without hyperchondroplasia but with a great tendency to hypertension

The main clinical types of asthenia in relation to growth are pituitary asthenia resembling Simmonds' disease, anorexia nervosa (Gull s disease) and certain combinations of exogenic and endocrinologic causation (hyperthyroid diabetic and addisonian) Diabetes may be associated with excessive height and dysplastic proportions or shortness with infantile proportions The latter may be caused by a hypophysial lesion and the outlook is grave

In the time of Naumyn (1890) the mortality rate in juvenile diabetes was 89 per cent, in that of Allen (1910) 69 per cent in that of Bautruy (1920) 10 per cent and in 1945, 2 per cent The diminished rate of mortality is due to the administration of insulin and to use of proper diet Dr Marañon stated that it is an error to abolish glycosuria in diabetic children because these patients require a high carbohydrate diet to stimulate the hypophysis and to provide energy for growth Complete control of glycosuria decreases the patient's appetite for food

Congenital abnormalities are considered as evidence of defective vitality Certain abnormalities, such as polydactylia, do not cause functional disorders, but others, such as myopathies and cardiovascular diseases are the cause of acute functional disorders In the majority of cases of congenital abnormalities growth is defective In almost all cases the hypophysiohypothalamic trophic sympathetic centers are defective. In most cases of congenital abnormalities there are coexistent endocrine syndromes The adipose genital syndrome (Laurence-Moon-Biedl syndrome) is associated with congenital abnormalities infantilism is associated with cardiopathy and nephropathy (renal lithiasis), dyschondroplasia and changes of the skeletal system, infantilism also may be found in association with diseases of the spleen liver and abdomen. Dyschromia of the skin or the mucous membranes may be related to infantilism gigantism, acromegaly addisonianism and the genital adipose syndrome. In addition achondroplasia may be associated with hypergenitalism. Frequently nervous abnormalities and endocrine diseases occur concomitantly (anencephalia and adrenal aplasia mongolism and myxedema amaurotic idiocy and nanism, oligophrenia and infantilism) Myopathies and endocrine diseases also may occur simultaneously (myopathy and genital adipose syndrome or macrogenitosomia)

This series of lectures was published in book form.

INDIA

(From a Regular Correspondent)

Bombay, January 25 1950

Medicine in India

It is not possible to write about medical affairs in India without referring to the political events of recent years and mainly to India s gaining independence on Aug 15 1947 Before that date, modern Indian medicine carried the imprint of English medicine, which was mainly represented by the Indian Medical Service This institution with its director-general in the city of New Delhi to a great degree commanded medical matters Its members held the important posts in medical administration, they were the teachers at medical colleges and the so-called civil surgeons in towns and districts Like all mainly British run institutions the Indian Medical Service was confronted by strong opposition from nationalist Indians, and therefore its 'Indianization" did not come as a surprise when the independent Government of India took over Changes in the principles of the Indian Medical Service were particularly pressed for as its original structure was considered inadequate to meet the demands of modern medicine

The Government was faced with the double task of reorganizing the medical services and finding suitable personnel to fill the gaps left by voluntary or compulsory retirement of the non-Indian members of the Indian Medical Service. This in itself would have been a difficult problem for any Government but India had to deal with at least one other important medical aspect i e. the indigenous systems of medicine prevailing in this country To understand the position, a short excursion into the history of Indian medicine is necessary For details I refer to the excellent chapter in Arturo Castiglioni s History of Medicine" from which I shall freely borrow here to the addresses given at the Twenty-Fifth All-India Medical Congress in Calcutta in December 1948 by Drs A K R. Chowdhury and S K. Chowdhury, dealing with the history of indigenous medicine in India and perhaps best of all to Sir R. N Chopra's presidential address to the Thirty-Fifth Indian Science Congress in 1948.

"The characteristic note of Indian medical thought is found in medicine as a philosophy in a systematic edifice in which every pathological concept has its place.' Traditional medical texts are based on the Indian physicians practice of indigenous systems, of which there are two the Vaidak (Ayurvedic) and the Unani. They are separate but hold some of their theories in common The Unani system is closely connected with Moslem culture Theoretically the Ayurvedic system rooted in Hindu culture, is based on a kind of humoral doctrine built on three doshas" or essential principles, which pervade the tissues and excretions and determine health and disease. These are the vital principles on which food, drink, medicine experimental applications and exercises are based. Ayurvedic medicine also knows a causative agent "Prabhatha,' similar to the constitutional factor of Western medicine. Therapeutical bases are dietetics and the infusion or decoction of herbs prepared by the doctors from traditional prescriptions that have mostly come to them from their forefathers or according to textbooks.

Besides the orthodox school previously described there is a more modern one with training in anatomy and physiology by teachers with full medical degrees. Dr. S. K. Chowdhury in the aforementioned address analyzes the reasons why the Aryuvedic system has been regaining ground. He notes the general cultural trend, restoring and fostering everything indigenous to the soil. Contrary to Western modern medicine, which is British (foreign) and therefore repugnant, Aryuvedic has a patriotic grip on the masses, and, with its slogan "remedies native to the soil and which will cure diseases occurring in it," it has become an important factor in the national political program. In spite of centuries of stagnation in both research and practice of indigenous systems of medicine, it is significant that 80 per cent—others estimate up to 95 per cent—of Indian inhabitants seek medical aid from Aryuvedic and Unani practitioners. Recognizing the trend and the facts, the new government of India appointed a committee on indigenous systems of medicine, under the chairmanship of Sir R. N. Chopra, which concluded that medical relief as provided by Western medicine does not meet the demands of the country, while the Indian systems of medicine satisfy the needs of large groups of the population, insufficiently cared for by the official Western medicine. The committee does not doubt the value of what Western medicine can give to Indian medicine but believes that the former can also benefit from the Aryuvedic principles already described and especially by the use of "suprasensory perception." It visualizes the integration of Indian and Western systems of medicine; in order to achieve such synthesis it devises a curriculum of studies of five years of both branches. The committee considers that the time has come when a new Act should be proposed to give the Central Government control of all recognized systems under a Central Council and with central direction of research, drug control and drug manufacture. The president of the Aryuvedic Educational Conference held last year in Baroda goes much further than the Chopra Committee and wishes the Government to declare Aryuvedic "the educational system of treatment as the only one preferred by 95 per cent of the Indian population in the villages." While the Chopra Committee hopes for a synthesis of the different systems, this Conference considers the latter course inevitable. Obviously influenced by developments elsewhere, this Conference demands the abolition of private practice and the complete socialization of health service as the only way of providing adequate medical attention to the underprivileged masses.

It is difficult in this vast subcontinent to get exact statistical material. The nearest approximate figure indicates that in 1948 India had fifty-one state-supported hospitals providing and part of them teaching, indigenous medicine and about four thousand dispensaries catering to 14,000,000 patients. The Chopra Committee suggests that teaching be confined only to such institutions as are able to keep up a standard as required by a governmental body. How many of these already existing hospitals are or will be able to comply, it is not yet possible to say. The preparation of modern Aryuvedic textbooks would fall within the orbit of this supervising body; this gives rise to the question in which language they should be published. One would think, of course, in the national language (Hindi), but another committee—the Yodh Committee—proposes the use of various regional languages, which would mean higher expenses and a barrier against free exchange of ideas. The language problem is not confined to the sphere of indigenous medical systems, and, as pointed out in the beginning, politics interferes with science. The Bombay Medical Council takes a stand here and also gives its views on the Chopra report. It recommends continuation of English as the teaching medium till the government regulations for the national language are made final. It also stresses the necessity of knowledge of English for the medical student, to enable him to keep abreast in world medical science even after the national language has been established. While the Chopra Committee visualizes "systems" merely representing different aspects and approaches to medical science as practiced in different ages and in different parts of the world, the Bombay Medical Council finds that the revival of old-time Aryuvedic medicine as a complete system comparable to modern science should be absorbed into modern medicine or vice versa. Whatever system or combination finally prevails, India without any question offers an enormous field for all branches of research, including studies in indigenous drugs.

ARGENTINA

(From a Regular Correspondent)

BUENOS AIRES, Feb. 10, 1950.

Malaria

Some months ago the general director of the fight against malaria disclosed that no new cases of malaria infection occurred during the summer and autumn. The Minister of Public Health announced that the campaign against malaria (specially organized with DDT applications) was successful and that malaria had been completely extinguished in the country. The tasks of the general director of the fight against malaria have been charged to a regional director of public health and epidemiology in the northern provinces of Argentina. The government has granted 650,000 pesos for continued prophylaxis against malaria.

Congress of Otorhinolaryngology

The second Pan-American Congress of Otorhinolaryngology and Bronchoesophagography was inaugurated by the president of Uruguay in Montevideo January 9. From January 14 to 16 the meetings were held in Mar del Plata, Argentina, and from January 17 to 20 they were held in Buenos Aires. The sessions were attended by one hundred and ninety-six foreign delegates, among them Drs. Kobrak, Lindsay, Shambaugh and Silverman from the United States. The most important subjects of discussion were audiometry, otosclerosis, surgery of deafness and cancer of the larynx. The next congress will be held in São Paulo, Brazil, in 1951 and the fourth one in Havana, Cuba, in 1953. The president of the congress in Uruguay was Dr. Justo Alonso and in Argentina, Dr. Juan M. Tato.

Poliomyelitis

In 1949, 278 cases of poliomyelitis with paralysis were reported in Chile; 43 of them were fatal. There is general alarm due to the increase of cases observed last year. In the first weeks of January there were 63 cases, 12 of them fatal.

University Cities

The University of Tucuman (Argentina) has undertaken the project of a great university city, and the establishment of a university city has also been projected in Cordoba, where the cost will be about 70,000,000 pesos.

Personal

The German scientist Prof. Gerhard Domagk, discoverer of the chemotherapeutic action of prontosil (diaminoazobenzene-4'-sulfonamide), who has delivered in Spanish some lectures on 4-aminoacetylbenzaldehyde thiosemicarbazone, or conteben, a sulfonamide compound active against human tuberculosis, was appointed Doctor Honoris Causa of the University of Buenos Aires.

Correspondence

INFANTILE PARALYSIS

To the Editor —The year 1949 brought with it the highest incidence of infantile paralysis on record in the United States But the year 1949 also brought with it the deeply reassuring and heart-warming response of people in the unsparing service given by the professional personnel who cared for the stricken. Hospital administrators, nurses, physical therapists, medical social workers, physicians and their many assistants—all were willing to make adjustments in their professional and personal lives to provide the watchful and expert care so necessary for the maximum recovery of poliomyelitis patients

I wish it were possible to thank personally the many thousands of persons who gave so unstintingly of their time and service I am happy indeed, through this open letter to those who served, to express the gratitude of the National Foundation for Infantile Paralysis, as well as my own personal appreciation, for their service to infantile paralysis patients

Basil O'Connor, New York,
President, National Foundation for Infantile Paralysis

DISINFECTION OF AMPULS

To the Editor —The article titled "Improved Lid for Sterilizing Jars" by Daniel C. Moore, M D, in The Journal, January 21, page 175, prompts the following comment on disinfection of ampuls Germicides chosen for this purpose should have a low specific gravity so that the handling of ampuls is not unwieldy In some instances the relative specific gravities of the solution and the ampuls are such that the latter submerge, i e. tubes of surgical gut. The germicide should be one with germicidal vapor so that the protruding portion of the ampul as well as the inner surface of the container and the lid, which the ampul may contact, are subjected to disinfection. The agent should also be a fat solvent to remove greasy fingerprints which may protect underlying bacteria. Alcoholic solutions of formaldehyde fulfil these requirements

It is desirable to color the solution with a compatible dye so that leakers (improperly sealed or cracked ampuls) will be detected. Paraplegia due to the intrathecal injection of anesthetic agents contaminated with germicide has been reported

There are certain rules for the disinfection of ampuls which must be observed for the safety of the patient. Paper labels usually come off, and the identity of the drug is lost. The same is true of soluble imprints on the ampuls Only ampuls imprinted with permanent marking should be purchased. Many persons have the habit of fastening paper labels in place with small rubber bands The germicide does not penetrate beneath the rubber band, and the outside of the ampul is unsterile. It is customary in many institutions to fasten two or three ampuls together so that medicinal preparations for a certain type of spinal anesthesia, for example, can be picked from the jar easily Meningitis has been traced to this practice In certain hospitals tubes of surgical gut are fastened together so that assorted sizes are readily available to the transfer forceps Here again unsterile gut tubes reach the operative field.

Where nontoxic and nonirritating germicides are essential, as in the physician's office, children s hospitals and mental hospitals, nonvolatile germicides must be used and a lid such as the one described by Dr Moore is essential The germicides should incorporate a detergent or the ampuls should be washed free of finger prints before they are submerged. A lid such as that described by Dr Moore has been in use locally for fifteen years and is illustrated in my monograph "Aseptic Treatment of Wounds," published by the Macmillan Company in February 1948 The illustration is figure 18-5 on page 33 The disinfection of ampuls is useless unless there is a means at hand for transferring them to the sterile field. An important source of contamination is the usual 'sponge stick." Sterile transfer forceps such as illustrated in figure 17 of the same monograph avoid the sources of contamination which make improvised forceps a true hazard. A well designed transfer forceps also effects economies in that ampuls are not dropped to the floor as readily

Carl W Walter, M D, Boston

Medical Motion Pictures

FILM REVIEW

Intravenous Anesthesia in Ophthalmic Surgery 16 mm color silent 800 feet (one reel) showing time twenty five minutes Prepared in 1949 by Murray F McCaslin M D and George J Thomas M D the department of Ophthalmology and Anesthesiology University of Pittsburgh School of Medicine and the Eye and Ear Hospital Pittsburgh Procurable on loan from Murray F McCaslin M D the Eye and Ear Hospital Pittsburgh

The advantages of intravenous anesthesia in ophthalmic surgery are discussed following which the method of management of this technic is discussed and demonstrated The painstaking technic of combining topical and regional anesthesia (the O'Brien block) with intravenous anesthesia makes a valuable presentation and no doubt accounts in considerable measure for the authors' success with intravenous anesthesia for ophthalmic surgery A brief review of the fundamental nervous anatomy of the O Brien block would have been a valuable adjunct for a better understanding of the extent and function of this block.

To prevent paroxysms of coughing and sneezing at the beginning of anesthesia induced by thiopental sodium (pentothal sodium®), the nares and pharynx are sprayed with a solution of cocaine. During anesthesia, oxygen is supplied through a tube inserted in the mouth After administration of the anesthetic agent has been discontinued, the patient is given oxygen and carefully watched by an attendant until recovery has taken place. Only short sketches of ophthalmic surgical procedures are shown For the instruction of beginning anesthesiologists, the addition of the anesthetists' criteria for anesthetic depth would be of value, since only the surgeons' criteria for this determination are presented The efficacy of the one method of oxygen therapy presented is open to question, because other methods that provide a higher concentration of alveolar oxygen are sometimes definitely indicated

Complications with this anesthetic method are briefly mentioned, but the management of complications is not presented Since respiratory depression is the most common complication the method of management of this serious situation, including resuscitation and endotracheal intubation should be included in order to safeguard this anesthetic procedure. The film should also include visual evidence of observations being made of respiratory and circulatory activity not only before but during and after anesthesia, since success with this method and the life of the patient depends entirely on the proper control of these two essential systems

Some of the contraindications for intravenous anesthesia are presented A few additions might well be made to this list including such conditions as asthma. The text might be enhanced by a brief statement as to the extent of the authors experience with this method and the incidence of complications

The plan for the presentation of material in this film is excellent This film in its present form is recommended for showing to experienced anesthesiologists and ophthalmologists with the suggested additions it would be an excellent film for the instruction of medical students, interns, residents and any physicians interested in surgery The photography ranges from good to excellent.

National Conference on Rural Health

Fifth Annual Meeting held in Kansas City, Mo, Feb 3 and 4, 1950

SATURDAY, FEBRUARY 4

Ball Room, Hotel President

DR F S CROCKETT, *Chairman*, Presiding

(Concluded from page 934)

CHAIRMAN CROCKETT The rules, as we have tried to develop them over the years, have been that this is the study group We feel that matters which could be presented here in essential agreement from study groups should be presented and those which are still in disagreement should be postponed for further study This morning we want to hear the reports of the group chairmen, yesterday was the time when you had the chance of discussion We will call then on our Group I Chairman

Group I Rural Medicine Facilities at the Local Level

MRS HAVEN SMITH, Vice President of the Nebraska Farm Bureau Federation, Chappell, Neb In our group there were 14 representatives of rural groups, three educators and 18 doctors

We met first in subgroups one group, under the direction of Dr McGibony, discussed federal aid, the other group, with Dr Spelman serving as chairman, discussed other facilities When the full group gathered to discuss medical facilities at the local level, we divided into small groups Then they discussed for eight minutes a question which had been submitted by a subgroup At the end of each discussion, the spokesman reported the results of their deliberations

I have summarized the afternoon's discussion

1 We must have an intensified educational program to acquaint people with the facilities that are available to them This program needs to be carried on by both professional and lay leaders through the school, the church, the newspaper, civic groups and all local organizations

2 Coordination and integration of existing and proposed facilities is absolutely necessary for successful and full utilization of the program

3 We need an ever increasing understanding between the doctors and the community, which should lend help and understanding to the doctor in his attempt to establish clinics and postgraduate courses, to keep abreast of the times The public must feel a responsibility to help its doctors make the full utilization of their time and ability

The community must realize that it has a responsibility and a stake in making it possible for their doctors to operate efficiently, for example, by bringing the patient to the doctor whenever possible, by setting up small local units for handling obstetric or emergency cases

4 We need to have more outpatient service in rural hospitals for the care of the indigent and also suggest that this problem could be solved by local doctors holding free clinics for these patients once or twice a week

5 The community must be stimulated to undertake more realistic and objective measurement of health and hospital needs In the Hill-Burton legislation we face some broad challenges in bringing better medical care to rural America Now we must see that the details are worked out to best fulfil our needs It was pointed out that on an average only half of our hospital beds are in use This is partly the result of lack of planning In some cases we have built hospitals only to find that it was not a hospital that we really needed but a medical center

We need a greater understanding of the cost of maintenance of medical facilities This requires the help of persons who are trained in this field, working with well organized local health councils to make a careful analytical determination of needs

6 We come back again and again to these fundamental principles We must be informed, we must plan, and we must work together

The last years have taught all of us two great lessons First, the necessity of knowing our problem and of careful planning The other lesson is the value of cooperation Singlehanded we can accomplish little, united with others we become a mighty force

Group II Relation of Agriculture Extension Service to Rural Health Problems

DR HARRY REED, Dean of Extension Service, Purdue University The Extension Service has promoted educational programs directed toward helping rural people to recognize their health problems and to take action to solve them These programs have been in sanitation, animal diseases affecting human health, nutrition, housing and other problems related to health, and this has involved such groups as the 4-H group, the large organized groups of rural women (in our state we have nearly 70,000 organized in home economic projects) and the older Youth Groups

Some of the newer problems are concerned with how to provide better health services and facilities and how to pay for them Problems of this kind cannot be solved by the farm family alone or by the community alone They call for the concerted study, consideration and action of many families, agencies and organizations—oftentimes many communities

The Extension Service recognizes responsibilities such as

1 Helping people to be aware of their own health needs The Extension Service is an educational organization All these recommendations are to be interpreted as being related to the educational activities of the Extension Service

2 Encouraging and helping rural people to develop an intelligent interest in achieving positive health

3 Helping people in local areas to get facts on their health needs as a basis for planning an effective health program

4 Training local people in the technic of community organization

5 Finding and developing leaders for carrying on health programs Extension Service can help young people see the opportunities for service through training in rural health work, and they are counting on doctors to interest people in being nurses, and technicians, since rural persons, if they go into those activities, are more likely to be interested in returning to the rural areas

6 Assisting rural people to mobilize all the local and the other resources to make the best use of what they have

6 Helping rural people to work out plans for the coordination of all their health services This may be done through local, county or state health councils

In our group there was discussion about whether to have the state health council or the county health unit first. The consensus was that greater service would be rendered by having the county units established first

The job of helping rural families and communities to be aware of, and to solve, their health problems requires much time of a staff well informed on health problems Only about one third of the states have a staff member whose major responsibility is helping rural people in the solution of their health problems

These recommendations are made

1 That measures be taken to inform all Extension workers of the health services and facilities available to rural people, also, that they be helped to see the health program as a unified program that has to do with the family's physical, mental and social well-being

2 That states, as soon as possible, employ a qualified health education staff to assist the Extension workers and rural leaders on state and local levels in planning and developing health programs

We feel that a great deal could be done if the Extension Service staff, which includes the Home Extension Agent, the County Agents, and the Assistant Agents, as well as the resident staff, is acquainted by the university with all the facts that are known regarding services that are available. Most Extension workers, perhaps, do not know all about all of the various organizations I am thinking of the heart group, the cancer group the tuberculosis group and the poliomyelitis group Often the Extension workers are used to assist in the campaign, but often they do not know what service that group can take back to the farm people We would like the Extension workers to know more about what these various associations can do *for the farm people. Not what the farm people can do for* them That we know I doubt whether any of us could give all of the real services that could be made available.

3 That prior to the initiation of a health project, which involves the employment of any Extension health personnel, the ground work be laid for cooperative working relationships, with all health agencies and organizations functioning in the area We would like to underline that It is not wise just to jump in and say, "We are going to do this' without first getting the sympathetic cooperation of all local groups

We have one area which has held up action for two years simply because the physicians have not been interested I am fairly confident that they will be We have had groups such as the one in Clarktown Ind where they are really working A few such counties now and then will convince the more conservative persons that this is a good thing and not one to be fought.

4 That Extension workers direct their efforts to helping people develop the processes for studying and solving their own health problems *In other words to serve as catalytic agents*

We have to develop that desire, that awareness and sometimes that is done simply by bringing into play certain suggestions when we are talking nutrition housing and sanitation and all these other things Thus we can in a month or a year, gradually get those ideas to stick The thing is to get the people to feel that it is their idea. Our job and the job of all agencies, as we see it, is getting the facts before the people. Here are the prepayment plans We must get these facts out. There are organizations that have a prepayment plan If they were to come as individuals and say 'Which is the best one?" I certainly would not know Maybe there is some way of getting more facts available so that people can appraise the real value or the comparative value of certain plans

Group III Community Responsibility for Health Service in Rural Areas

Mr J S Jones Executive Secretary of the Minnesota Farm Bureau Federation

Group III composed the largest group of any of the sections We had over 60 persons in each Section, representing Extension Service, Schools Physicians Hospitals Public Health Specialists and Medical Auxiliary We had 28 doctors in our Section coming in contact with 41 persons representing farm organizations

Our group broke down into two small groups

Group A began by listing on the blackboard *What Are Our Community Responsibilities in Matters of Rural Health?*

1 Our first and most important responsibility as citizens is to become aware of local health needs in terms of medical and health services

2 It is our responsibility to survey these needs and problems in terms of our financial and active support for (*a*) obtaining physicians and (*b*) additional facilities and services and (*c*) eliminating environmental hazards

3 It is our responsibility to survey the needs in our community so that we may plan programs of suitable scope to meet the particular needs of community

After defining our community responsibilities for rural health improvements this group broke up into small units to discuss successful community programs which have been carried out in communities We learned about programs from Florida to California, Massachusetts to Texas These programs centered on (1) community health council (2) legislation for health improvement and (3) obtaining public health departments

Probably the most outstanding success stories centered on the survey of community health problems by means of local and state workshops community councils, health department surveys and others undertaken by farm and home agents Many of the small groups brought out that the best surveying is done by farm women going from house to house to obtain information, stimulate interest and become better acquainted with their communities

We learned about successful hospital projects tuberculosis and venereal disease control campaigns hospital insurance programs school health programs sanitation improvements and successful cooperation in planning together through state and local health councils

Section B also broke into small discussion groups to bring out different stimuli for community action. Probably the best programs result from stimulation motivated by the particular problems from within the community but it makes no difference whether it comes from one direction or the other The discussion centered on (1) action to get a hospital (2) action to get a physician and (3) action to get a health department

Both of the smaller sections came together at 3 15 p m to report their section discussion After the reports were heard we again broke into small groups to restate the problems and make recommendations

HOW TO GET A HEALTH DEPARTMENT ORGANIZED

1 Sponsor a legal enabling act—passage of levy We suggest you write to the Florida State Board of Health, Illinois State Board of Health and Mississippi State Board of Health for copies of their acts

2 Arrange for adequate public health salaries

3 Recommend better training of public health personnel

4 Survey local problems to see what type of health department is necessary to meet local problems

5 Arrange for adequate financing of health department There are various ways of financing such as by mileage levy or contribution

6 Initiate a process of education of people so that they understand problems and its implications

7 Gradually eliminate inadequate health departments to be supplanted by adequate full time units We have here a statement made by Dr Haven Emerson which we want to incorporate in our report

"No kind of artificial salesmanship is going to persuade the youth of our nation to go into health fields when they see underpaid, untrained, overburdened staff working in cramped, dirty quarters They must see good sound programs in action by a qualified staff

"The community can contribute to recruitment and training of professional and technical personnel for medical care of the state and for public health services best by visiting a community health council which among other activities should devote a major portion of its influence (*a*) to see that schools and other educational institutions in the community know of the needs the opportunities and training facilities for doctors nurses dentists veterinarians and technical aids (*b*) to see that good hospitals and auxiliary services for diagnosis and care of the sick are operated for the community whether or not located in the community, and that a local health department is operated at a high level of quality of personnel and functions

"It is felt that the best argument for recruiting and training in medical care and public health is the presence of a good hospital or health department in the community'

HOW TO GET A HOSPITAL

1 A communitywide survey to find the type of hospital needed and necessary facilities based on community problems No hospital should be built before a competent survey is made

2 Methods for getting funds (*a*) by subscription of local funds through donations (*b*) by use of local tax funds (*c*) by use of federal and state funds (*d*) a combination of the foregoing or (*e*) by securing endowments

HOW TO GET INFORMATION TO PEOPLE

1 By use of methods already demonstrated to be successful based on the needs of that community

2 By use of agencies and all methods like councils that have proved to be successful working through parent teacher associations, the Farm Bureau all farm organizations Extension

Service, the newspapers We should not get information to people by forced feeding methods but by technics developed by professional, responsible personnel in local agencies

The main part of all discussion throughout the afternoon centered on 1 Community health councils Someone defined community health council as "A group of local individuals organized to discuss their health needs and manner of improving them" I think that was Dr Emerson's definition

2 A group of persons discussing freely the specific function or problem brought before it—a coordinating educational body

We recommend

1 That Councils be formed by people in the local communities

2 That people be asked to indicate what they are interested in It was brought out that the best results come about when as many people as possible are asked what their chief interest is

3 A health council should be an organized expression of that particular community preceded and continued with a program of education based on local needs

As to functions we believe

1 That a prime council responsibility is to maintain sustained interest

2 That it has responsibility for finding out what they have in the community—existing facilities and agencies

3 That it has responsibility to find out what is needed

4 That it should develop the ways and means for meeting the problem

5 That it should keep the public informed

Group III has one main recommendation which seemed to be brought out constantly throughout the entire afternoon

1 We recommend thorough and complete community diagnosis by citizens where they live

2 We should beware of superimposing ideas on people Each community is different, the problems are different, and the solution will be different

3 We recommend unity, not uniformity—the American way of life.

Group IV Methods of Prepayment for Health Services in Rural Areas

Mr H E Slusher, Chairman of the Health Committee of the American Farm Bureau

(a) *What Should Be Paid for Out of Tax Funds?*

(b) *What Should Be Paid for by the Individual?*

I am not too sure that we found the solution There were some minority opinions as well as majority opinions In this report I am going to try at least to recognize some of the solutions which were voiced by a definite minority, in my opinion However, we are going to present them for you because one of them does present a challenge

The two groups had their separate sessions, then we had a joint conference We arrived at some rather definite recommendations and with some seven or eight specific recommendations which we thought would merit the consideration of the entire group

1 Tax funds should be used to buy medical care only when it is impossible for the individual to secure medical care without such help

2 Greater efforts should be made to improve and sell voluntary prepayment plans to more of the farm people

We recognized the broad question as to when one determines whether the individual can pay for medical care himself?

Perhaps we spent too much time in limiting discussion to the indigent I am not sure that we came up with an answer

We recommend that

1 Tax funds should be used to provide educational and other recognized public health services There was no disagreement on use of taxes to pay for what we recognized as our general, over-all preventive health programs

2 Tax funds and local contributions should be used to provide medical care for the indigent with local administration of such funds That is always, of course, one of the items that gets under discussion when we talk about using tax funds particularly federal tax funds, how to get those funds available so that we can administer programs at the local level and remove the political implications from the program

3 Tax funds should not be used to provide health care to those who are not medically indigent

4 All interested groups should make every effort to devise and sell voluntary medical, surgical and hospital care plans designed to cover catastrophic misfortune

5 Most of the group agreed that real progress had been made in enrolling rural people in prepayment plans They agreed that greater effort was needed to enrol still more. However, a minority felt that the progress had been so slow that a new plan would have to be designed to solve the problem One such plan, the feasibility of which was questioned by many, was an insurance policy with a variable premium according to ability to pay It was found that no actuarial basis for operating such a program could be found In other words, we had one insurance man in the group and, speaking unofficially, he said he did not think that, as an insurance man, he would dare to embark on such a program Many of us who are connected with insurance programs had somewhat the feeling that to have a variable premium, which would pay the cost of medical care for an entire group, would be exceedingly difficult to administer

6 Policy coverage—if desirable to provide health insurance offering full and unlimited service Such a complete program is not feasible, nor is it deemed essential to meet the basic needs desired for health security While a minority of those present favored a program of unlimited service, the majority agreed the current program provides the basic framework to provide the essential needs There were a few in our group who had had experience with Blue Cross and Blue Shield and other insurance programs and felt that we had already oversold those plans to our farm people and that we did not say enough about the exclusions, or the "fine print," in the contract which was purchased Then, of course, the individual, who thought he was fully covered, went to the hospital and there was some hard feeling caused

We have made a lot of progress People who ten years ago had never thought of it today are using some kind of hospital insurance, if one has occasion to use a hospital and is satisfied with it, then his neighbor is sold on the idea. So I think we had better cut the plan to the acceptance by our people out there and as time goes on we will want a bigger and better plan, but let us use what we have with its limitations until we have universal acceptance of that and then we can add on to that acceptance

7 Sales efforts among farm groups have in some instances created misunderstanding of the benefits and the more important limitations of the benefits provided in the policy sold

There is need for further education of farm groups with respect to their needs and the availability of plans by which health security can be obtained This education is an enormous responsibility of farm groups and insurance agencies which expect to serve farm people.

The general agreement was that prepayment for health insurance from taxes should be employed only when the individual cannot possibly provide the care himself

Group V The Responsibility of the Medical Schools in the Rural Health Program

Dr J Murray Kinsman, Dean of the University of Louisville, School of Medicine It was pointed out that with respect to a great many of the boys who were not accepted for medical school, the basis on which they were refused had been established in their first or second years of college and that, if the colleges had sorted and sifted their premedical applicant students thoroughly in the beginning those boys could have been side-tracked and kept from pursuing a medical course, with perhaps years saved

But the increased enrolment has limits, because of the lack of teachers in the medical school who are capable and willing to teach and the lack of sufficient money for salaries and facilities. So there is a limit to the number of students that can be taken.

Internships were discussed at length. It was emphasized that rotating internships specifically for general practitioners should be encouraged.

Dr Miller, who has had much experience in postgraduate and refresher courses, gave these ideas, which were discussed at length.

1 A course should be limited to three days a week instead of five and Monday and Saturdays be left free because those are the busiest days for a general practitioner in the country.

2 The course should be given in the medical center at least periodically, because of the availability of its library and clinical teaching material.

3 Courses should be given throughout the state in centers which are strategically situated from the standpoint of transportation.

4 The course should be adapted to the doctor's training. Sometimes the city specialists come down and talk over the heads of the country doctor, or they are more apt to do the reverse.

5 Private patients should be used as much as possible. The general practitioner should choose the subject material rather than leave it up to the visiting teacher.

6 Replacements for the general practitioner should be furnished when possible.

7 The general practitioners who take these courses should take examinations on them and be graded. That would help a bit in deciding what capacity they have from the standpoint of the teaching level the next time. These are Dr Miller's ideas. I am passing them on to you.

8 Doctors should pay for their courses. One is more apt to take advantage of something he pays for.

Then we went out of our field and began talking about how to get doctors to the country. One physician said this poor distribution of doctors would take care of itself because the cities were now becoming saturated with doctors and if they are going to make a living many of them would have to go to the country. I think he is probably right.

Among other recommendations I took the liberty of considering justified from the discussions yesterday were that teaching hospitals be encouraged to inaugurate special internships for general practitioners, that visual aids be widely and wisely used, that automatic projectors be used when available and that communities which think that they need a doctor prove their sincerity by taking steps to attract one. They should remember that the doctor probably has a wife and family and that he is apt to stay if his wife is happy.

Summation of Conference

Mr. Roger B Corbett, Agricultural Counsel of the National Association of Food Chains: The first impression that I have is that this has been a good, constructive and valuable conference. I visited all five groups. It has been a working conference with everybody thinking and talking together.

In spite of all that we have been saying to improve the situation, these United States do have the best rural medical care in the world.

I have been here before, and I am surprised at the number of agencies that are at work. Many of us need to be informed as to how many agencies actually are working in the field. We need to know just who is working at the present time.

When we find out who, I want to know much more than I do about what each is doing. If we are going to pool our plans and resources as has been indicated several times we have got to know both *Who* and *What*.

My next point may be the most important one that I am going to give you. Will you agree with me in this that the answers will not be found in Washington, or in Chicago or even in Kansas City, but they will be worked out in local communities by informed individuals working together.

Important as the Hill-Burton Act is and nobody has disparaged that as far as I know, it is much more important that people have the right attitudes, that people have the desire to do something about it. We have agreed that that comes to focus in health councils—community, county and state. What happens there is that the people get the information. Out of people getting information and working together comes the leadership that makes those councils successful. I believe it was implied that, when that leadership did not come, then the council might not be successful.

Probably the finest thing about it all is the spirit that has pervaded this conference. You have come here, doctors farmers educators laymen to give and take. There has been no one that I have heard who has been so sure that he was right that he was not willing to take something from someone else. It has been a fine example of working together.

I was interested to hear a report yesterday that in some medical schools the boys themselves were asking that some of the technical courses be cut out so that they could have a little more time on what might be called the human courses learning how to live together. This has been a fine demonstration of what we need everywhere. We have worked together progressively actively and definitely at this conference. But the question that has tremendous effect on our inability to work together is Who will make the decisions? We in the democracies are saying that the individual is important. We have said here today that the decisions should be made by individuals in local communities. We have said that you in your own local community should make the decisions which means that you would take the responsibility. You have said here you would take the responsibility of medical care. I believe you have said, as you thought this through that that is the sound and the best way out. So you have answered the most important question when it comes to your field. Who will make the decisions?

This conference has been moving ahead. *It has had five years of progress and growth. It has been a demonstration of democracy in action.*

Address of Dr Ernest E Irons

Dr. Ernest E Irons Chicago: We are in the midst of a fight for the preservation of American ideals and American freedom. At the moment medicine and those who participate in its processes of education and maintenance of standards are in the front line.

Many of the community problems of rural areas can best be solved by community efforts. Rural groups have always been accustomed to think for themselves. When economic difficulties overtake a family in a rural community, their neighbors set up a program to take care of the individual problems. They take pride in this. This nation is dependent on the farm communities for the production of food supply. It is also dependent on farm groups for rural medical planning. Rural communities know better what they need better than can any bureau in Washington. Subsidies, whether to education or to farmers may seem desirable but are actually designed as inroads on our freedom. This nibbling at freedom is part of the socialistic program of establishing a planned economy in a country which has always boasted of freedom of opportunity. Recently when it became evident that the administration bill for nationalization of medicine with its enormous addition to the already unbalanced budget could not be expected to pass this Congress the announcement was made that only parts of the plan for the welfare state would be attempted. This is the Fabian technic of placing a foot in the door."

Federal aid to education including medical education is one of these parts in the welfare program. Every subsidy carries with it the threat of regulation. In 1942 the Supreme Court in an opinion involving benefits and subsidies held: It is hardly lack of due process (of law) for the government to regulate that which it subsidizes."

High prices for food bring demands for increased wages with increase in cost of manufactured commodities which the farmer must buy. In the end the small farmer loses not only his freedom but also the value of the subsidy given him by a paternalistic government. In all this we are repeating in one form or another the ruinous experiments of ancient China and Rome or those of more modern nations. We must discard deals" and their unsavory connotations and return to a sound program of honest thinking and free enterprise before it is too late. Marxian materialism must not be substituted for moral principles and for individual freedom and responsibility.

Bureau of Medical Economic Research

INFANT DEATHS AND STILLBIRTHS IN LEADING NATIONS

NOTE—*The Bureau of Medical Economic Research of the American Medical Association has recently published Bulletin 73, Infant Deaths and Stillbirths in Leading Nations (20 pages) A copy will be mailed to any physician on request The Bulletin contains eleven tables and many references to the official publications of the ministries of health of the leading nations Following is a summary of the Bulletin by the authors, Frank G Dickinson, Ph D, Director, and Everett L Welker, Ph.D, Associate in Mathematics, of the Bureau staff*—ED

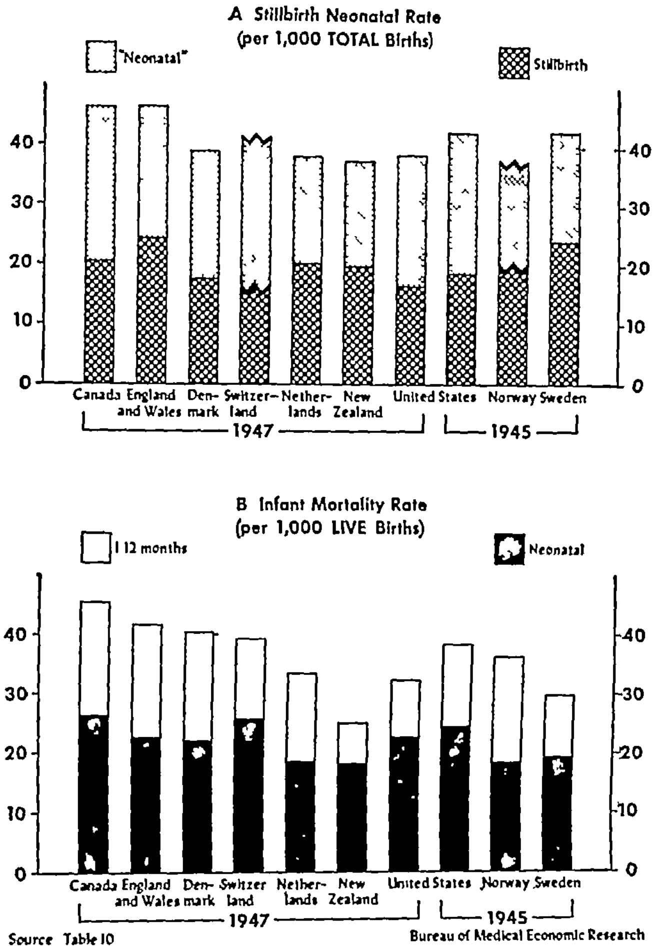
The data on infant mortality presented in Bulletin 73, Infant Deaths and Stillbirths in Leading Nations clearly indicate three important facts, first, the United States has made rapid strides in reducing the number of infant deaths, second, the difference between the infant mortality rate of the United States and the leader, New Zealand, is rapidly closing, and third, the mortality rate for the United States in 1946 was slightly lower than that of New Zealand for the second half of the first year of life In 1915 the infant mortality rate for the registration area of the United States was 100 infant deaths per thousand live births—twice that of New Zealand In 1948 the United States, with 32 infant deaths per thousand live births, trailed New Zealand by only 10—a provisional rate of 31 1 for the United States in 1949 has just been released by the National Office of Vital Statistics The other countries which ranked ahead of the United States in 1948 were Sweden, Australia and Netherlands, with infant mortality rates of 23, 28 and 29, respectively

In most countries low infant mortality rates are associated with low later (1 month and under 1 year) infant mortality rates, high percentages of infant deaths under 1 month (and even under 1 day) and high percentages of deaths due to premature birth In the United States and Sweden a little over half the deaths occurred during the first week, the percentage of these deaths which occurred during the first day is much lower in Sweden than in the United States Sweden was also exceptional in that its percentage of deaths due to premature birth was low, only about one-fourth that of the United States —undoubtedly the result of a variation in coding procedures The cause of death of a premature infant in Sweden is frequently coded as congenital debility in the United States the death is attributed to premature birth International comparisons are complicated—nations differ in definitions and rules Examples of significant differences in each of these are encountered in a discussion of infant mortality In the United States an infant is liveborn if it breathes, shows heart action or moves a voluntary muscle In many other countries the only test is breathing Adoption of the United States definition by any country using breathing as the only test would tend to lower the number of stillbirths and raise the number of live births and early infant deaths Variation in the rule governing the time allowed in the reporting of a birth can affect comparability of data Long delay tends to increase underreporting and to increase the number of stillbirths Reporting is probably more complete when a large percentage of births occur in hospitals with physicians in attendance

The United States, with its large population, vast area, complex industrial pattern and mixed racial stock, cannot be compared without caution to the tiny nations of the world with excellent health records The problems faced in these nations are far different from those of the United States It is much more reasonable to compare groups of neighboring countries or to compare these small nations with individual states of the United States, preferably states with similar racial composition so far as possible A number of such comparisons are presented in Bulletin 73 Possibly the most interesting is a review of infant mortality rate comparisons for certain groups of countries published by the United Nations which shows the lowest rate for Canada and the United States combined

A visual summary of the infant mortality problem in the selected countries is presented in the accompanying chart Part B of the chart shows the infant mortality rates for nine countries, for each there is a bar showing neonatal (black part of bar) and later (1 to 12 months) infant mortality rates (white part of bar) For Norway and Sweden it was not possible to obtain suitable data later than 1945, for all other nations 1947 data were available There are, therefore two sets of bars for the United States The chart is arranged with the 1947 data on the left and the 1945 data on the right In part B the countries are arranged in descending rank order according to the infant mortality rate for 1947 and for 1945, the arrangement is the same in part A If breakdowns of the 1947 data had been used for Sweden and Norway, it is probable that the leader in infant mortality would be either New Zealand or Sweden, followed in order by the United States, Netherlands, Norway, Switzerland, Denmark, England and Wales and Canada

The difference between the heights of the bars in part B for New Zealand and Canada is large The neonatal rates, which are indicated by the black parts of the bars, were lowest for Netherlands, New Zealand, Sweden and Norway In general, a high neonatal rate is associated with a high infant mortality rate, Switzerland and the United States are exceptions to this rule, as indicated by the black parts of the bars The white part of each bar shows the later infant mortality rate Almost without exception the rank of the countries based on the infant mortality rate is the same as the rank based on the later infant mortality rate The highest neonatal rate on this chart is about 1 5 times the lowest, while the highest later infant mortality rate is almost three times the lowest—for Canada and New Zealand The rather high neonatal rate for the United States is surprising when one considers the low United States infant mortality rate The explanation is found in the extremely low later infant mortality rate, as previously noted, the United States had the lowest rate of any country in the world for the age group 6 months and under 1 year About one third of the difference between the infant mortality rates of New Zealand and the United States was due to the difference in the later infant mortality rates, and the remaining two thirds was due to the difference in the neonatal rates The


A Stillbirth Neonatal Rate
(per 1,000 TOTAL Births)

B Infant Mortality Rate
(per 1,000 LIVE Births)

Source Table 10
Hypothesis C for U.S

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Stillbirth neonatal and infant mortality rates for selected countries one third differential caused by later infant mortality can largely be solved by a decrease in the pneumonia and diarrhea deaths in the sections of the United States in which the infant mortality rates are relatively high. The remaining two thirds attributed to neonatal deaths has required further examination.

The *definition of stillbirth* is of vital importance in the neonatal rate. The classification of a birth as a stillbirth or as a live birth and an early death affects the neonatal rate proportionately more than the infant mortality rate. The effect of this classification can be eliminated by considering the stillbirth-neonatal rate (based on *total* births) rather than the neonatal rate (based on *live* births) alone; that is, the stillbirth-neonatal rate is obtained by adding the number of stillbirths per thousand total births to the number of neonatal deaths (under 1 month) per thousand total births. In the calculation of the stillbirth-neonatal rate it was necessary to take into account the difference in gestation period requirements of the several nations in the differentiation between stillbirth and miscarriage. The stillbirth definition for most countries requires a 28 week gestation period, this was used in hypothesis C for the United States along with a proration of the stillbirths for which the gestation period was unknown—about one eighth of all stillbirths. Under hypothesis C it was assumed that the distributions of the lengths of gestation period were the same for both groups—those with unknown periods and those with known periods. (Two other hypotheses A and B are discussed in Bulletin 73.) For Switzerland the gestation period requirement is 6 months and for Norway it is 8 months. Part A of the chart shows the stillbirth-neonatal rate based on hypothesis C for the United States and the reported stillbirth statistics for the other countries without any modification. The tops of each part of the bars for Switzerland and Norway are drawn as wavy lines to show that these rates are only approximations in view of the difference in gestation period requirements.

The heights of the bars for the different nations are much more uniform in part A than in part B. Indeed, with the exception of Canada and England and Wales all of the bars are close to the horizontal guide line, a stillbirth neonatal rate of 40. If 1947 data were available for Sweden and the stillbirth definition were modified for Switzerland it is probable that the nine countries would be close to a total of 38 stillbirths and neonatal deaths per thousand total births with the exception of the two countries with the high rates previously noted, Canada and England and Wales. The lower part of the bar in part A shows the stillbirth rate and the upper part shows the 'neonatal rate' (deaths under 1 month per thousand *total* births). Excluding the two countries with high infant mortality and stillbirth-neonatal rates the low stillbirth rates are associated with high 'neonatal rates' and high stillbirth rates are associated with low 'neonatal rates'."

The actual difference between the stillbirth-neonatal rates for New Zealand and the United States is negligible—less than 1. The equality of these rates is the key to the explanation of that two thirds of the difference in the infant mortality rates between New Zealand and the United States not explained by the later infant mortality rates. If stillbirths are combined with neonatal deaths in order that all failures under 1 month of age be considered, it is found that the fundamental difference between New Zealand and the United States lies in the classification of a failure as a stillbirth rather than a neonatal death and not in the difference in the total number of failures. (It must be remembered that United States data include all races, while the New Zealand data used herein exclude the Maoris. It is probable that the situation in Australia is comparable to that of the other leading nations but, unfortunately, proper stillbirth data are not available.) It is difficult to forecast the amount of improvement which can be anticipated in this index as a result of improved prenatal and postnatal care. The relative importance and the stubborn character of premature birth render it one of the most difficult phases of the infant mortality problem. In the light of this discussion showing that the stillbirth-neonatal rates are approximately the same in all the leading nations, it seems reasonable to suggest that the major question to be asked about the continuing problem of infant mortality is "How soon can the United States achieve a lower later (*1 month and under 1 year*) *infant mortality* rate than every other country in the world, large or small?" In the age interval 6 months and under 1 year the infant mortality rate in the United States was the lowest in the world in 1946. Well established trends in the United States particularly in the sections where the number of infant deaths is relatively high justify the expectation that the infant mortality rate in the age group over *1 month and under 6 months* will soon be lower than that of every other nation. In this age group the deaths per thousand live births in 1946 were 3 9 for New Zealand (excluding Maoris) and 6 8 for the United States.

New Statistical Measure Needed

Since the infant mortality rates in various countries of the world have been reduced to a relatively low level particularly for infants past 1 month of age, vital statisticians might ask themselves the question 'Should we now abandon the infant mortality rate as an index and replace it by the stillbirth neonatal rate, either by itself or in conjunction with the two separate components, a stillbirth rate and a neonatal rate?' The remarkable conquest of the infectious diseases which have caused many infant deaths in the past has reduced the death toll for those over 1 month of age to such an extent that the upper limit of 12 months normally used to define infant mortality is much less important today than it was in the past. Although a 'breaking point" at 6 months provides the most favorable comparisons for the United States the authors believe that their analysis suggests that the neonatal rate may well become the "infant' mortality rate of the future, particularly when it is discussed in conjunction with the stillbirth rate[1]. The rapidity of medical progress requires that old statistical measures be supplanted by new measures which will provide a better delineation of the continuing problem, defining the health problem is one of the major functions of vital statistics. Furthermore it is possible to foresee the time when we would wish to discard the 1 month concept in the stillbirth neonatal rate and consider a time period of only 1 week.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Right of Lay Coroner or Undertaker to Give Opinion as to Cause of Death.—The claimant filed proceedings to recover a workmen's compensation award after the death of her husband. From the denial of an award the claimant appealed to the Court of Appeals of Kentucky.

The deceased was a bus driver who was found dead in the front seat of his bus after the bus had apparently left the highway at a place where the road was straight. There were no eye witnesses and the only question presented by this appeal was as to the cause of death.

The coroner and the undertaker, at whose establishment the coroner made his investigation, stated that there were no external marks on the body with the exception of an indentation the same size as and apparently produced by pressure of the dead body upon the seam of the leather seat. The coroner listed the cause of death as a cerebral hemorrhage. Both he and the undertaker testified that it was their belief that this was the cause of death. Neither were physicians and both the referee and the workmen's compensation board ruled their testimony incompetent. The circuit judge in his opinion stated that the testimony of the undertaker would be competent under prior decisions of the supreme court of Kentucky. The Court of Appeals, without further dicussion of the point, merely said "We agree." For other reasons the decision of the trial court was affirmed and the award denied.—*Hunt's Adm'x et al v Fuqua 224 S W (2d) 917 (Ky 1949)*

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[1] The variations in the neonatal and stillbirth rates suggest the desirability of using age 1 month rather than age 0 as the lowest age for quotations and computations of life expectancy values in population life tables. Some authorities have contended that the minimum age for quotation of life expectancy values should be several years, such as age 5, in order to avoid the difficulties inherent in curve smoothing of the raw data for these very early ages. It has been suggested that the lowest age should exceed the age at which life expectancy is maximum, while recognizing that that particular age is lower in each successive life table and that theoretically it might some day be age 0.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners *Part II* Various medical schools April 24 25 *Parts I and II* Various locations June 19 21 Final date for accepting applications is May 19 Exec Sec, Mr E S Elwood, 225 S 15th Street, Philadelphia

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology *Written* Various locations. July 21 *Oral* Philadelphia, April 23 27, Chicago, Oct. 8 11 Sec Dr Curtiss B Hickcox 745 Fifth Ave, New York 22

American Board of Dermatology and Syphilology *Oral* Washington, April 14 16 Sec Dr George M Lewis, 66th Street New York 21

American Board of Internal Medicine *Oral* Boston, April 13 15 San Francisco June 21 23 The oral examinations in the subspecialties will be held at the same time and places *Written* Oct 16 Final date for acceptance of applications is May 1 Asst Sec, Dr William A. Werrell 1 West Main Street, Madison 3 Wis

American Board of Neurological Surgery *Oral* Chicago, June 3 Sec Dr W J German, 789 Howard Ave, New Haven Conn

American Board of Obstetrics and Gynecology, Inc *Oral Part II* Atlantic City, May 21 27 Sec, Dr Paul Titus, 1015 Highland Bldg Pittsburgh

American Board of Orthopaedic Surgery *Part I* New York, April 21 22 Atlanta, April 28 29, Indianapolis, April 28 29 Denver, May 5 6 Sec. Dr Harold A Sofield, 122 S Michigan Ave, Chicago

American Board of Ophthalmology *Written* Various Centers January 1951 Final date for filing applications is July 1, 1950 *Practical.* Boston May 22 26 Chicago Oct. 2 6, West Coast, Jan 1951 Sec Dr Edwin B Dunphy 56 Ivie Road, Cape Cottage Maine

American Board of Otolaryngology *Oral* San Francisco May Chicago October Sec., Dr Dean M Lierle University Hospital Iowa City

American Board of Pathology Madison, Wis, April 11 12 St Louis, Nov 10 11 Sec, Dr Robert A Moore, 507 Euclid Ave, St Louis

American Board of Pediatrics Cincinnati, May 5 7, San Francisco June 30 July 2 Exec Sec., Dr John McK Mitchell, 6 Cushman Road Rosemont Pa

American Board of Physical Medicine and Rehabilitation *Oral and Written* Boston, Aug 26-27 Final date for filing applications is April 1 Sec, Dr Robert L Bennett, 30 N Michigan Ave, Chicago

American Board of Plastic Surgery *Oral* May June. Sec Dr Louis T Byars 4647 Pershing Avenue St Louis Mo.

American Board of Proctology *Part I* San Francisco, Dallas, Minneapolis and Philadelphia, May 13 Sec Gen, Dr Louis A Buie, 102 110 Second Ave S W, Rochester, Minn

American Board of Psychiatry and Neurology San Francisco, June 23 24 Applications no longer accepted Next examination, December 1950 Final date for filing applications is Sept 1

American Board of Radiology *Oral* Chicago, week of June 18 Sec, Dr B R Kirklin, 102 10 Second Ave S W, Rochester Minn.

American Board of Surgery *Written* Various centers, Oct. 25 Final date for filing applications is July 1 Sec., Dr J Stewart Rodman 225 South 15th Street Philadelphia

American Board of Urology Chicago Feb 10 14, 1951 Final date for filing applications is Sept 1, 1950 Sec., Dr Harry Culver 7935 Sunnyside Road, Minneapolis 21

BOARDS OF MEDICAL EXAMINERS

Alabama *Examination* Montgomery, June 27 29 Sec, Dr D G. Gill 519 Dexter Avenue Montgomery

Arizona * *Examination and Reciprocity* Phoenix, April 18 19 and April 22 Sec, Dr J H Patterson 316 West McDowell Road Phoenix

Arkansas * *Examination* Little Rock, June 8 9 Sec Dr Joe Verser Harrisburg *Eclectic* Little Rock, June 8 9 Sec. Dr Clarence H Young 1415 Main Street Little Rock.

California *Examination Written* San Francisco, June 19 22, Los Angeles Aug 21 24, Sacramento, Oct 16 19 *Examination, Oral and Clinical for Foreign Medical School Graduates* San Francisco, June 18, Los Angeles, Aug 20, San Francisco, Nov 12 *Reciprocity, Oral Examination* San Francisco, June 17, Los Angeles, Aug 19, San Francisco Nov 11 Sec Dr Frederick N Scatena 1020 N Street, Sacramento 14

Connecticut * *Examination* Hartford, July 11 12 Sec to the Board, Dr Creighton Barker 160 St Ronan St, New Haven *Homeopathic* Derby, July 11 12 Sec Dr Donald A Davis, 38 Elizabeth St, Derby

Delaware *Examination* Dover, July 11 13 Sec Dr J S McDaniel 229 S State St, Dover

District of Columbia *Examination* Washington, May 8 9 Sec, Dr Daniel L Seckinger 4130 E Municipal Bldg, Washington 1

Florida * Jacksonville, June 25 27 Sec. Dr Frank D Gray, 12 N Rosalind Avenue Orlando

Georgia *Examination* Atlanta and Augusta, June. *Endorsement.* Atlanta June Sec Mr R C Coleman, 111 State Capitol Atlanta 3

Hawaii *Examination* Honolulu July 10-13 Sec, Dr I L. Tilden, 1020 Kapiolani St, Honolulu

Idaho Boise, July 10 Sec, Mr Armand L. Bird, 305 Sun Bldg, Boise

Illinois Chicago, April 4 6 Superintendent of Registration Mr Charles F Kervin, Capitol Bldg, Springfield

Indiana *Examination* Indianapolis June. Sec. Dr Paul R. Tindall, 1138 K of P Bldg Indianapolis.

Iowa * *Examination* Iowa City, June 12 14 Sec., Dr M A. Royal 506 Fleming Building Des Moines 19

Kansas Kansas City, June 7 8 Sec Dr J F Hassig, 905 N 7th Street, Kansas City

Kentucky *Examination* Louisville June 14 16 Sec. Dr Bruce Underwood 620 S 3rd Street Louisville 2

Maine *Examination and Reciprocity* Augusta, July 11 12 Sec Dr Adam P Leighton, 192 State St, Portland

Maryland *Examination* Baltimore June 20 23 Sec Dr Lewis P Gundry, 1215 Cathedral Street Baltimore 1 *Homeopathic* Baltimore, June 20 21 Sec Dr John A Evans 612 W 40th St Baltimore

Massachusetts *Examination* Boston July 11 14 Sec, Dr George L Schadt Room 37 State House, Boston 33

Missouri Examination St. Louis May 31 June 2 and June 7 9 Exec Sec, Mr John A Hailey Box 4, State Capitol Building St. Louis.

Nebraska * *Examination* Omaha June 5 7 Director Bureau of Examining Boards Mr Oscar F Humble 1009 State Capitol Building Lincoln 9

Nevada Carson City May 1 Sec. Dr George H. Ross, 112 Curry Street Carson City

New Jersey *Examination* Trenton June 20 23 Sec., Dr E. S Hallinger 28 West State Street Trenton.

New Mexico * Santa Fe, April 10-11 Sec. Dr Charles J McGoey Coronado Building Santa Fe.

North Carolina *Endorsement* Pinehurst, May 1 *Written* Raleigh, June 19 22 *Endorsement* Raleigh, June 19 Sec, Dr Ivan Procter, 226 Hillsboro Street, Raleigh

North Dakota *Examination* Grand Forks, July 5 7 *Reciprocity* Grand Forks July 8 Sec Dr C J Glaspel Grafton

Ohio *Examination* Columbus June 14-17 Sec, Dr H M Platter, 21 W Broad St Columbus 15

Oklahoma * *Examination* Oklahoma City, June 7-8. Sec. Dr Clinton Gallaher 813 Braniff Building Oklahoma City

Oregon **Endorsement* Portland April 28-29 *Written* Portland July Exec. Sec Mr Howard I. Bobbitt 609 Failing Building Portland 4

Rhode Island * *Examination.* Providence April 6-7 Chief Division of Professional Regulation, Mr Thomas B Casey, 366 State Office Bldg, Providence.

South Carolina *Examination* Columbia June 26 29 *Reciprocity* First Monday of each month Sec. Dr N B Heyward 1329 Blanding Street Columbia.

South Dakota * Sioux Falls July 18-19 Sec, Dr C E Sherwood 300 First National Bank Bldg Sioux Falls

Texas * *Examination* Austin, June 19 21 Sec. Dr M H Crabb 1714 Medical Arts Bldg, Fort Worth 2

Utah *Examination* Salt Lake City, June Dir, Dr Frank E Lees, 324 State Capitol Building Salt Lake City

Virginia *Examination* Richmond June 23 24 *Endorsement* Richmond June 22 Sec., Dr K D Graves 631 First St. S W Roanoke.

Wisconsin * Milwaukee, July 11 13 Sec. Dr C. A. Dawson River Falls

Wyoming *Examination* Cheyenne, June 5 Sec., Dr Franklin D Yoder Capitol Bldg Cheyenne

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* Basic Science Certificate required

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Arkansas *Examination* Little Rock May 9 Sec., Mr L E. Gebauer 1002 Donaghey Building Little Rock.

District of Columbia Washington April 17 18 Sec. Dr Daniel L. Seckinger 4130 E Municipal Building Washington.

Florida *Examination* Gainesville June 3 Sec, Mr M W Emmel, University of Florida, Gainesville

Iowa *Examination.* Des Moines, April 11 Sec., Dr Ben H. Peterson Coe College, Cedar Rapids

Michigan *Examination* Detroit and Ann Arbor, May 12 13 Sec, Miss Eloise LeBeau 101 N Walnut St, Lansing

Minnesota *Examination* Minneapolis, April 4-5 Sec, Dr Raymond N Bieter, 105 Millard Hall, University of Minnesota, Minneapolis

Nebraska *Examination* Omaha, May 2 3 Director, Bureau of Examining Boards Mr Oscar F Humble, 1009 State Capitol Bldg, Lincoln

Oklahoma *Examination* Oklahoma City, April 11 Sec., Dr Clinton Gallaher 813 Braniff Building Oklahoma City

Oregon Portland, June 17 Sec., Dr C D Byrne, University of Oregon Eugene

Rhode Island *Examination* Providence May 10 Administrator of Professional Regulation Mr Thomas B Casey, 366 State Office Bldg, Providence.

South Dakota Vermillion, June 2-3 Sec., Dr Gregg M. Evans, 310 E 15th Street Yankton.

Texas *Examination* Austin, April 21 22 Sec., Brother Raphael Wilson, 306 Nalle Building, Austin

Wisconsin Madison, April 1 Milwaukee, June 3 Sec., Prof W H Barber, Ripon.

Current Medical Literature

AMERICAN

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Etiology of Eclampsia I Water Balance W J Dieckmann A G Seski, C P McCartney and others —p 1014

Value of the Vaginal Smear—Graham and Meigs review their experience with the vaginal smear as an aid in the diagnosis of uterine cancer Their observations were made in the six year period since 1942 In the examination of a total of 8 131 slides, 432 cancers were detected. The false positive error has diminished until in the last year it was only 0 04 per cent. A positive smear means the presence of cancer False negative smears continue at about 10 per cent. This figure is due to lack of cells in advanced cases and a lack of exfoliation in others Smear and biopsy diagnosis are complementary and not rival methods

Study of 135 Cases of Carcinoma in Situ of the Cervix—Younge, Hertig and Armstrong list the questions that must be answered to prove that carcinoma in situ of the uterine cervix is a preinvasive stage of cervical cancer They feel that their experience with noninvasive carcinoma of the cervix for nearly twenty years enables them to answer some of these questions Six cases of carcinoma in situ of the cervix have been observed in their clinic to progress to invasive cervical cancer in eleven months to six and one-half years One patient with "marked anaplasia" of the cervix had cancer of the cervix two years later The original biopsy showing anaplasia probably had been taken from the periphery of an invasive cancer Carcinoma in situ of the squamous epithelium of the cervix represents either cancer in its early stage or noninvasive cancer at the periphery of an infiltrating lesion Therefore, when it is found invasive carcinoma must be ruled out by multiple biopsies or serial block study of the entire surface of the cervix If no invasion is found on the first or second biopsy, repeated multiple biopsies and vaginal smears should be done for at least six months If the carcinoma in situ involves only the surface epithelium and does not involve the cervical glands thorough destruction of the surface lesion by cauterization or complete excision by sharp conization will apparently cure 85 per cent of such lesions Reproductive function, thus, may be preserved in young women Those not cured by these conservative methods should have a simple total hysterectomy removing as much of the vagina as is indicated by the Schiller test. Removal of the ovaries is not necessary Evidence indicates that lymphatic spread does not occur from carcinoma in situ of the cervix Pelvic lymph node dissection is not indicated in cases adequately studied before treatment A simple total hysterectomy for carcinoma in situ after only one biopsy is hazardous, because invasive cancer has not been ruled out. Adequate evaluation of most of these cases can be done without hospitalization by the use of a good biopsy punch and an accurately interpreted Schiller test. Endocervical curettage, submitting blood clot as well as tissue, is an essential part of the study The average age of women with carcinoma in situ of the cervix is 38 years Vaginal smears are reasonably accurate (93 per cent) when carcinoma in situ involves the cervical glands but will reveal only 53 per cent of those showing just surface involvement Pregnancy is not hazardous after carcinoma in situ of the cervix is cured by cauterization Six such patients in this series have become pregnant Five year follow-up study on 69 patients with cervical carcinoma in situ shows that none with adequate study before treatment has had a recurrence or died of the disease.

American Journal of Medicine, New York

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Value of Upright Roentgenograms of Maternal Pelvis at or Near Term with Particular Reference to Placenta Praevia H R Crews A O Hampton and J P Moore —p 707
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Neutron and Roentgen Ray Effects on Protein Content of Rat Intestine M H Ross and J O Ely —p 718

Angiocardiographic Diagnosis of Syphilitic Aortitis—Steinberg and co-workers performed angiocardiography on 60 patients with syphilitic aortitis Angiocardiography greatly facilitates the early diagnosis of syphilitic aortitis by revealing clearly the gross anatomy of the entire thoracic aorta A diagnosis can often be made with this procedure in the absence of conclusive clinical or roentgen evidence The angiocardiographic signs of syphilitic aortitis include aortic dilatation (above 38 mm, mid-ascending aorta in 51 patients), irregularity of lumen (51 patients), calcification of ascending aorta (16 patients), aortic tortuosity (51 patients), variations in thickness of the aortic wall and the presence of aneurysm (25 patients) Dilatation, the cardinal angiocardiographic sign of syphilitic aortitis, may also be caused by hypertension, aortic valvular insufficiency of nonsyphilitic cause, or coarctation of the aorta It is not pathognomonic of syphilis of the aorta Aortic dilatation may be absent in early syphilitic aortitis Uncomplicated arteriosclerosis apparently does not cause aortic dilatation beyond the upper limit of 38 mm The diagnosis of syphilitic aortitis may be made sooner and put on a sounder anatomic basis by means of angiocardiography, thus facilitating the earlier, more adequate treatment occasioned by the cardiovascular complications of syphilis

Malignant Degeneration of Benign Giant Cell Tumor of Bone—From 1923 to 1947 Leucutia and Cook treated 77 patients with benign giant cell tumor of bone at the Harper Hospital, Detroit The treatment consisted of curettage and postoperative roentgen therapy up to 1929 and of roentgen therapy as the principal procedure since 1930 Five patients died, 3 from incidental disease and 2 of subsequent sarcomatous change of the benign giant cell tumor Five patients are untraced, 1 of these had malignant degeneration of the benign giant cell tumor A sarcomatous change of a benign giant cell tumor developed in an additional 4 patients, in whom a satisfactory final result was obtained after further treatment, either by surgery or irradiation Thus 7 of the 77 patients (9 per cent) showed malignant degeneration This was noted after routine roentgen treatment in 4 instances The sarcomatous neoplasia was observed in 1 of these 4 patients before the contemplated series of treatments were concluded, so that the lesion was probably malignant from the beginning In another, the roentgen dose given was so small that its significance can almost certainly be disregarded Repeated pathologic fractures complicated the picture in the remaining 2 cases The malignant degeneration apparently was spontaneous in 1 of the remaining 3 cases The sarcomatous change developed after operation in the last 2 cases and after curettement with filling of the cavity with bone chips in 1 An eighth case is included in which fibrosarcoma of the soft tissues and sternum developed eighteen years after gross overirradiation for thymic enlargement Malignant degeneration of a giant cell tumor of bone occurs in a limited number of cases (10 to 15 per cent) as a natural sequence of events unaffected by the type of treatment given

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Management of Anesthesia for the Allergic Patient. R E Brenneman —p 534
Treatment of Intrinsic Bronchial Asthma with Autogenous Vaccine A C Grorud —p 540

Protein and Vitamin Metabolism in the Allergic State—Adams points out that attempts at successful management of allergic patients with conventional symptomatic treatment, elimination diets and/or topical medication have been generally disappointing He expresses the opinion that dealing with the allergic state resolves itself chiefly into a metabolic study The problem may be attacked with therapeutic nutrition, which includes a biologically potent protein hydrolysate, the complete vitamin B complex mainly from mixed natural sources and therapeutic quantities of all other vitamins incorporated in one formula in balanced proportion Into 20 Gm (2 tablespoonfuls) of the hydrolysate were introduced ½ teaspoonful (1 7 Gm) of the B complex elixir and ¼ teaspoonful (0 9 Gm) of the vitamin emulsion This combination was creamed thoroughly and brought up to 2 fluid ounces (60 cc) with hot water The resultant mixture was smooth and palatable and served as a unit dose It was termed the "basic three," as it provided amino acids, the entire B complex and all other vitamins for which human need has been established Dosage ranged from three to six or even eight 2 ounce doses daily Establishing the patient on optimal nutrition with the "basic three' formula not only resulted in relief, healing and apparent cure of the allergic syndrome but also enabled the patient to tolerate foods and other allergenic agents to which he had been sensitized prior to treatment.

Annals of Surgery, Philadelphia

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Appendiceal Calculi Their Pathologic and Clinical Significance. R L. Lowenberg —p 975
Combination Probe Dilator and Irrigator for Common Duct Surgery A. L. Wilkie —p 980

Cause of Death in Strangulation Obstruction.—Nemir and his co workers observed that late in the course of strangulation obstruction in dogs intensively treated for shock dehydration and electrolyte imbalance, the peritoneal fluid changed from a pink, odorless, coagulable fluid to a black or reddish black, malodorous, noncoagulable fluid In view of the rapid demise of the animal after the appearance of the black fluid in the peritoneal cavity and its rapid absorption into the blood stream, it seemed likely that some lethal factor was present in this fluid. Peritoneal fluid removed from the strangulated animals at various intervals, was injected into normal animals by both intravenous and intraperitoneal routes It was found that the pink or strawberry-colored peritoneal fluid, removed from animals with a strangulation obstruction which is due to the presence of blood and unchanged hemoglobin is nontoxic on injection into normal, recipient animals either by the intraperitoneal or intravenous routes even when rapidly administered in amounts up to 50 cc per kilogram of body weight The late, or black peritoneal fluid, which has been shown to be derived at least in part from the lumen of the strangulated gut is lethal on injection into normal animals by either the intraperitoneal or intravenous route when administered in much smaller amounts than the pink fluid The toxicity of the peritoneal fluid samples removed in experimental strangulation obstruction is proportional to the content of unidentified pigments responsible for the abnormal spectrum of the black peritoneal fluid While the abnormal spectrum has served as a measure of the toxicity of the fluid on injection into other animals there is no evidence at present to identify the pigment itself as the toxic agent.

Fibrous Dysplasia of Bone—Proffitt and his collaborators analyze the records roentgenograms and microscopic sections of patients who had been given a diagnosis of giant cell tumor, solitary bone cyst osteitis fibrosa cystica or Paget s disease (osteitis deformans) They discovered 4 cases of fibrous dysplasia previously diagnosed as osteitis fibrosa cystica and 1 case of what was originally thought to be a solitary bone cyst They report observations in 7 such patients There were spontaneous fractures in 4 patients and the remaining 3 had pain. There was disability even in the patients with involvement of only the ribs Tenderness over the diseased areas was present in all cases, but in the cases in which fracture had not taken place there was no palpable tumor The bone lesions were usually irregular areas of rarefaction which varied greatly in size and shape. The phosphorus levels were normal and the calcium levels were at the upper limits of normal or slightly elevated Exploration of the bone revealed solid tissue Microscopic examination makes it possible to differentiate fibrous dysplasia from giant cell tumor but not from solitary bone cyst or osteitis fibrosa cystica. The authors stress that fibrous dysplasia of bone can be differentiated from other disease of bone by proper interpretation of the clinical, laboratory, roentgenologic operative and pathologic findings Only one of these studies is rarely adequate, but in most instances of multiple bone involvement by fibrous dysplasia the diagnosis can be made upon the basis of the roentgenologic findings and the calcium and phosphorous levels Healing usually occurs following fracture, just as it does in bones in which there are cysts Healing with new bone formation occurs after curettage. In case of painful fibrous dysplasia of a rib, the rib and intercostal nerve should be excised

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Beryllium Granulomas of Skin—Tissue samples received from 4 persons in whom subcutaneous granulomas developed after beryllium compounds had been traumatically introduced into the skin were examined at the Kettering Laboratory The laboratory also received tissues from an additional person in whom granulomatous inflammation of the subcutaneous tissues followed the introduction of metallic beryllium The clinical data were essentially similar for all 5 patients In 4 the beryllium was embedded in the skin by accidental breaking of fluorescent lamp tubes and puncturing of the skin by glass fragments The fluorescent powder which lines tubes of this type is comprised of a calcined mixture of zinc oxide manganese oxide beryllium oxide and silica. In these 4 patients the lacerations healed with production of excess fibrous tissue Two of the lesions when first seen, were believed to be simple keloids All four lesions opened on one or more occasions after initial healing to discharge thick, grayish white necrotic material The period from injury to excision varied from four months to nine years A fifth patient, a young woman who worked at cutting metallic beryllium with a machine, had lacerated her finger during her work. A granuloma which developed failed to heal over a period of four years so that finally a complete excision of the lesion was made. The histologic relationship of granulomas of the skin and similar granulomas which occur in the lungs of persons who have inhaled beryllium-containing dusts is described Cure followed excision of the lesions in all cases

Flea Problem in California—According to Lunsford fleas are more of a nuisance in California particularly in the San Francisco Bay area, than elsewhere in the United States He discusses the entomology of fleas the clinical picture of reaction to flea bites the differential and the path aspects He relates his experiments with flea antigens and experimental studies on reactions to flea bites Feeding fleas on newborn infants confirmed the clinical observation that persons first have to be bitten by fleas in order to become sensitive Feeding fleas on residents of California and on newcomers proved that most persons become immune after having been bitten over long periods Most cases of "papular urticaria" in California are in reality due to flea bites Further studies and better antigens are needed for the investigation of the value of artificial desensitization Oil of citronella, pyrethrum, 612 (2-ethyl-1,3-hexanediol), DDT, petrolatum and camphor applied locally are of value as repellents The continued taking of quinine by mouth or of thiamine hydrochloride by mouth or injection is of clinical and experimental value in the repelling of fleas Application of modern insecticides, such as DDT, to the known breeding places of fleas offers the most practical solution of the problem

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Stellate Block for Relief of Simultaneous Angina Pectoris and Motor Aphasia S M Perry and E W Amyes —p 422

Vitamin E in Coronary Disease—Rush treated 54 cardiac patients with 300 mg of vitamin E daily, usually in the form of ephynal acetate® The drug was given orally in three equal doses The treatment was continued for at least three months and in many instances for twenty-six months The patients treated were divided into 3 groups Twelve of the first group had angina of effort without objective indications of heart disease Twenty patients of group 2 had angina of effort and showed some positive objective signs of heart disease, diagnosed as coronary sclerosis Twenty-two patients of group 3 had had myocardial infarctions and had angina pectoris as a residual symptom when vitamin E therapy was started The incidence of improvement among patients in the series was no greater than in a control group not given vitamin E There was no significant difference in the subjective evidence of relief for patients given vitamin E and those given placebos When some of the patients being treated with vitamin E were given placebos instead, for a period during the course of observation, subjective improvement was not diminished Specific benefits attributable to vitamin E therapy could not be shown

Massive Doses of Penicillin in Subacute Bacterial Endocarditis—Griffith and Levinson present observations on 57 patients with subacute bacterial endocarditis The doses varied between 500,000 and 20,000,000 units per day The diagnosis was confirmed in some patients by blood culture, in others by postmortem examination When the diagnosis was established by blood culture, the in vitro sensitivity of the organism to penicillin was determined and penicillin was administered by continuous intramuscular infusion in a dosage calculated to produce blood levels of penicillin four to five times that required for in vitro inhibition Penicillin was given for twenty-one days, and blood cultures were made periodically during and after treatment Of the 57 patients, 38 were cured (66 7 per cent) and 19 died (33 3 per cent) Of the 19 who died, 3 did so within forty-eight hours of hospitalization and 7 died despite adequate treatment, 3 of the 7 died of cerebral emboli, 2 because of resistance to penicillin and streptomycin, 1 because of congestive heart failure, and 1 of undetermined cause. The remaining 9 who died were considered to have been inadequately treated, in that there was (1) failure to ascertain sensitivity, (2) inadequate dosage of penicillin, (3) delay in starting treatment or (4) failure to recognize mixed infections There were 5 fatalities in patients with repeatedly sterile blood cultures during life A green-producing streptococcus was recovered from all of these at necropsy To determine how long treatment should be withheld in patients with repeatedly sterile blood cultures, 140 cases of subacute bacterial endocarditis, in which positive blood cultures had been obtained, were reviewed It was determined that if blood cultures taken during the first two days are reported sterile, the chance of subsequent cultures proving positive is minimal Therefore, for patients in whom the diagnosis seems otherwise obvious, delaying treatment for more than two days is not justified even though the blood culture be sterile In cases in which blood cultures are repeatedly sterile, a dosage of 6,000,000 to 10,000,000 units of penicillin daily for twenty-one days is advisable. High bacterial resistance to penicillin and streptomycin was found in 4 fatal cases In 1 of these the infecting organism was a green-producing streptococcus and in 3 it was Staphylococcus albus

Illinois Medical Journal, Chicago

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Unrecognized Pernicious Anemia Mistaken for Arthritis—Ford shows that subacute combined cord degeneration might, in the absence of an accurate clinical appraisal, be improperly diagnosed and treated as chronic arthritis, with deleterious results to the patient He reports 2 women aged 63 and 74, in whom subacute combined cord degeneration progressed because the patients were mistakenly treated for chronic arthritis Intensive liver therapy although instituted late, led to partial recovery The author feels that the gravity of the neurologic complications of pernicious anemia and the incomplete recovery on liver therapy make early diagnosis important

Journal of Immunology, Baltimore

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*Observations on Folic Acid Deficiency in Chick in Presence of Vitamin B_{12} C A Nichol L S Dietrich C A Elvehjem and E B Hart —p *287*
*Production of Antibodies in Protein Depleted and Repleted Rabbits D. G Gemeroy and A H Koffler —p 299
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Fatal Vitamin E Deficiency Disease in Rats Characterized by Massive *Lung Hemorrhage and Liver Necrosis* E L Hove D H Copeland and W D Salmon —p 397
Nutritional Effects of Heat on Food Proteins with Particular Reference to Commercial Processing and Home Cooking H H Mitchell, T S Hamilton and J R Beadles —p 413

Folic Acid Deficiency in Presence of Vitamin B_{12}.—Nichol and associates say that previous work has shown that chicks given a purified diet deficient in folic acid fail to grow normally and develop anemia The administration of vitamin B_{12} or refined liver extract alone had no effect on hemoglobin regeneration but did produce some growth response. When these chicks were kept on the folic acid–deficient ration for several weeks after treatment with liver extract or vitamin B_{12} they manifested body tremors, extended, quivering wings and finally complete paralysis None of these symptoms appeared in the control groups Further experiments revealed that folic acid deficiency in chicks fed a purified ration was accentuated by supplying vitamin B_{12} as the crystalline material, by injection or as a concentrate added to the ration The relation of folic acid and vitamin B_1 to the previously described vitamins B_{10} and B_{11} is discussed

Role of Protein in Antibody Response.—Gemeroy and Koffler studied the antibody response to beef serum in protein depleted and protein-repleted rabbits It was found that antibody response is higher in repleted than in depleted animals It is only slightly higher in rabbits fed a commercial diet than in the protein-depleted animals A high protein diet supplemented by other essential dietary factors is valuable for the production of hyperimmune serums in rabbits

Laval Medical, Quebec

14 1127-1274 (Nov) 1949

*Adrenal Pheochromocytoma Without Hypertension P A Poliquin and P Dupuis —p 1127
Role of Anesthetist in Pylorointestinal Obstructions L Rinfret —p 1148
Treatment of Whooping Cough and Other Diseases by Means of Variation of Atmospheric Pressure. R. Cruchet.—p 1165

Adrenal Pheochromocytoma Without Hypertension.—Poliquin and Dupuis report a woman aged 53 with an abdominal tumor in the left hypochondrium, accompanied with pain and associated with constipation anorexia asthenia and a weight loss of 30 pounds (13 6 Kg) The arterial tension was normal and never exceeded 130 The patient had no symptoms of vaso constriction or of disturbances of metabolism in general or of the carbohydrate metabolism Clinical study was not suggestive of a pheochromocytic tumor Roentgenologic examination revealed a tumor localized at the superior pole of the kidney At laparotomy, a left retroperitoneal tumor, the size of the head of a full term fetus and adherent to the tail of the pancreas was removed Postoperative shock was probably due to the manipulation, which caused a hyperadrenalemia by expression Thus peripheral vasoconstriction was induced causing acceleration of the heart action with secondary cardiac decompensation Oxygen, digitoxin and vasodilators should be administered in such a case rather than epinephrine which would make the condition worse. Microscopic examination of the tumor revealed a typical paraganglioma (pheochromocytoma) Only a small peripheral border consisted of living tissue, while the center consisted of necrotic, mucoid or gelatinous tissue The tumor did not have a capsule in a strict sense, and the peripheral elements were not invasive and were lost in a layer of compact fibrosclerous tissue The tumor was therefore considered benign The patient is still alive four years after the operation

Military Surgeon, Washington, D C

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Missouri State Medical Assn Journal, St Louis

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Diseases of Newborn Early Diagnosis from Obstetric Viewpoint T M Singleton and I C Atwell —p 770
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Hypertension Surgical Treatment by Transthoracic Thoracolumbar Sympathectomy P A Knepper, L G Neudorff R M Brooker and J R McDaniel —p 855
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New England Journal of Medicine, Boston

241 799-848 (Nov 24) 1949

*Erythroblastosis Fetalis V Value of Blood from Female Donors for Exchange Transfusion I H Allen Jr I K Diamond and J B Watrous Jr —p 799
Flexor Tendon Grafts in Hand J E Flynn —p 807
Effects of Bis Trimethylammonium Decane Diodide and Dibromide on Neuromuscular Function and on Induced Convulsions in Man D Grob D A Holaday and A McG Harvey —p 812
Use of Bis Trimethylammonium Decane Dibromide in Anesthesia D A Holaday, A McG Harvey and D Grob —p 816
Mediastinal Emphysema M Visner and J E Franco —p 818
Adenocarcinoma of Ampulla of Vater —p 836
Metastatic Adenocarcinoma of Appendix with Appendiceal Abscess —p 839

Erythroblastosis Fetalis Blood from Female Donors for Exchange Transfusion—In reviewing data on 208 cases of erythroblastosis fetalis treated by exchange transfusion, Allen and associates noted that although the mortality was over 15 per cent in the whole group there were no deaths in a group of 42 babies who happened to have received blood from female donors exclusively They had also observed that female babies with erythroblastosis fetalis do significantly better than male babies, especially with regard to the incidence of kernicterus Since the discovery that blood from female donors seemed to be superior for exchange transfusion in infants with erythroblastosis fetalis, the authors have deliberately chosen women as donors for 13 babies with this disorder, and none of the 13 died The beneficial effect of blood from female donors has been shown to result only from the use of relatively large quantities (150 cc or more) The potential value of a beneficial component of blood from female donors is probably not limited to babies with erythroblastosis fetalis

New Orleans Medical and Surgical Journal

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New York State Journal of Medicine, New York

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*Niagara Falls Mass Chest X Ray Survey Procedures and Results W Siegal, H E Wirth and J A Campbell —p 2783
Diarrhea of the Newborn Approach to Control Through Minimum Standards of Nursery Care R E Trussell —p 2789
*Problem of Cerebral Palsy M L Levin, I J Brightman and E J Burtt —p 2793
Vaccination Against Tuberculosis H M Kinghorn and M Dworski —p 2800
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Peptic Ulcer Problem A F R Andresen —p 2811
Psychosomatic Aspects of Regional Ileitis W A Stewart —p 2820
Management of Ear Problems in Children M F Jones —p 2825
Pediatric Suggestions to Reduce Neonatal Mortality M Weichsel and J H Lapin —p 2829
Relation of Postcholecystectomy Syndrome to Psychosomatic Medicine and to Latent Subclinical Forms of Clinical Disease A O Wilensky —p 2833

Niagara Falls Mass Chest Roentgenologic Survey—Siegal and co-workers completed a chest roentgenologic survey of the total adult population of the city of Niagara Falls, N Y, in eight weeks, during which 52,137 persons, 99 per cent of whom were 15 years of age or older, were examined It is estimated that 75 4 per cent of the resident adults eligible for roentgen survey were examined The highest percentage of adults examined was in the age group between 15 and 25 years and the lowest was in those aged over 45 The largest number of persons examined was in the age group between 25 and 44 years More men than women were examined in all age groups Four hundred and eighty-one (0 9 per cent) of all the adults examined showed evidence suggestive of definite or suspected tuberculosis, based on survey film interpretations One hundred and fifty of these (0 29 per cent of the total number of persons examined by roentgen rays) were considered tentatively to have active tuberculosis The rate of probably active tuberculosis was twice as high among male patients as among female patients In both sexes and in all the age groups the rate of probably active tuberculosis was highest among men 45 years of age or older This emphasizes the seriousness of the problem among older men and points to the need for increasing efforts to examine by roentgen survey the chests of all persons in this high prevalence group Only 12 (8 per cent) of the probably active cases had been reported previously, the remaining 138 therefore, were new to the Health Department One hundred and nineteen of the 150 probably active cases (79 per cent) were classified as minimal tuberculosis, 28 (19 per cent) were classified as moderately advanced and 3 (2 per cent) as far advanced Nontuberculous intrathoracic conditions were diagnosed in 630 persons, a rate of 1 2 per cent Industrial employees showed a higher rate of probably active tuberculosis for both sexes, and this was more pronounced in men than in women Follow-up 14 by 17 inch roentgenograms were obtained during the survey for 332 of the 481 persons (69 per cent) whose survey films showed definite or suspected tuberculosis The large films showed agreement in 294 of the 320 persons (92 per cent) whose survey films showed definite tuberculosis

Cerebral Palsy—A survey of cerebral palsy conducted by Levin, Brightman and Burtt in Schenectady County, New York, during the latter half of 1948 indicates that the incidence of this disease is 5 9 per 1,000 live births, and the prevalence is 152 per 100,000 population The total number of patients with cerebral palsy in the state of New York would be estimated at 22,000, based on observations made by the authors in Schenectady County Additional surveys must be conducted in one or two additional counties before the data can be considered as truly applicable to the state as a whole The occurrence of cerebral palsy bears no apparent relation to social, economic and cultural factors Twenty-seven per cent of patients 5 years of age or older had never attended school, and 34 per cent required special classes of institutional care Sixty-two per cent of the atients 20 years of age or older had never been employed and 7 per cent were employed either irregularly or on a part time asis The Schenectady County survey indicates that 9 per cent f the patients with cerebral palsy have such a slight degree of andicap or are so well-adjusted that they do not require any pecial service, 64 1 per cent need services on an ambulatory asis, 8.3 per cent require prolonged medical treatment at a ospital-school and 18 6 per cent should be placed in institutions or custodial care. In view of the limited number of qualified ersonnel and facilities available for the treatment of patients ith cerebral palsy, studies should be made to determine the ltimate improvement which may be expected after optimal eatment and the best means to screen those with good pros ects for rehabilitation from those who have already achieved aximal improvement.

Northwest Medicine, Seattle

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The Great Deception Nationalized Medicine E E Irons —p 841
Difficulties of the Rheumatic Fever Problem P Guy —p 845
Repair of Flexor Tendons with Fascia Lata H von H Thatcher —p 848
Strangulated Indirect Inguinal Sliding Hernia of Urinary Bladder L J Scheinman —p 851
Splenic Abscess R W Pollock —p 853
Cerebrovascular Lesions Report of 52 Autopsy Cases of Cerebral Artery Hemorrhage Thrombosis and Embolism G L Maurice —p 856
Sinusitis P M Osmun.—p 857

)klahoma State Medical Assn. Jour , Oklahoma City

42 507-560 (Dec) 1949

Nephroptosis A R Sugg —p 510
Evaluations of Methods of Prostatectomy B A Hayes —p 513
Management of Diabetes Mellitus B F Keltz —p 517
Use of Saddle Block for Obstetrics in Small Institutions Preliminary Report of Observations in 132 Cases C E White J E Horn and D Mounger —p 521
Use of Sulfamylon Streptomycin Mixtures in Prevention and Treatment of Local Infections P E. Craig —p 523
Roentgen Ray Diagnosis of Pulmonary Metastases. P E Russo —p 526

Sulfamylon®-Streptomycin Mixtures in Treatment of ocal Infections —Sulfamylon® has been produced by altera-on of the structural formula of sulfanilamide This synthetic omolog (4-amine-2-methyl benzene sulfonamide hydrochloride) nlike the parent drug, is nontoxic, acts in the presence of ara-aminobenzoic acid blood tissue fluids and pus, and has ccording to Craig, a wide range of bactericidal activity against ram-positive micro-organisms It is a stable, weakly acid ater soluble, white crystalline compound which when com ined in a 5 per cent aqueous solution with 200 units of treptomycin per cubic centimeter, has an inhibitory and killing ower for some thirty types of bacteria, including both gram ositive and gram-negative groups as well as most of the erobes and anaerobes The mixture is more effective than any ther antibacterial agent. It has been used in lacerations, burns r abrasions, potentially or frankly infected wounds chronic uppurating wounds, draining abscess cavities acute sinusitis hinosinusitis, conjunctivitis, otitis cystitis cervicitis, vaginitis nd proctitis, in preparation for skin grafting and in generalized r localized peritonitis More than 900 patients have been reated with the drug It has been employed in the form of et dressing, used for irrigation, injected subcutaneously and istilled into ears, eyes and nose. The combination of sulfamylon® and streptomycin approaches the properties of an ideal ntiseptic which will destroy bacteria rapidly without trauma izing the tissue to which it is applied or exerting toxic effects n the host

Philippine Medical Association Journal, Manila

25 375-416 (Aug) 1949

Cerebral Angiography Preliminary Report R Paterno J Jose D Fernandez and A Besa —p 375
Cleft Lip in Adults and Infants J E Laico —p 385
Preventive Pediatrics in Private Practice —F del Mundo —p 391
Mycologic Technique in Medical Practice. F C Bocobo —p 395
Myasthenia Gravis Case Report Involving Muscles of Phonation and Deglutition M C Tan —p 401

Proc of Staff Meet. of Mayo Clinic, Rochester, Minn

24 581-604 (Nov 23) 1949

Traumatic Premature Closure of Subcapital Femoral Epiphyseal Cartilage Report of Case. R K. Ghormley P B Golden and M E. Anderson —p 581
Hamartoma of Hand—Report of Case. M B Coventry L. B Woolner and M E Anderson —p 587
*Hematopoietic Activity of Parenterally Administered Beef Muscle Concentrate in Cases of Pernicious Anemia E. H Morgan B E Hall and D C. Campbell —p 594
Hormonal Influences upon Rate of Growth of Hair in Gonadectomized Mice A. B Houssay and G M Higgins —p 597

Parenterally Administered Beef Muscle in Pernicious Anemia.—A concentrate of beef muscle prepared and furnished to Morgan and his associates by Wolf and his co workers was administered intramuscularly to 3 patients with pernicious anemia in relapse Each patient received 20 mg of the concentrate each day, this amount being derived from 125 Gm. of beef muscle and containing approximately 1 0 microgram of vitamin B_{12} activity as determined by microbiologic assay This method elicited hematopoietic responses which appeared to be optimal in 2 patients and suboptimal in 1 The activity of parenterally administered beef muscle concentrate therefore appears to be similar to that of extracts of liver and presumably is due to the presence of vitamin B_{12}

Southern Medical Journal, Birmingham, Ala

42 929-1020 (Nov) 1949

Circular Prolapse of Female Urethra Report of Two Cases E H Kloman W K. Mansfield and A K Schoenbucher —p 929
Fractures About the Base of First Metacarpal with Special Reference to Bennett s Fracture H B Macey and R. A. Murray —p 931
Cholecystocolic Fistula Review and Case Report. J F Crenshaw —p 935
Anticoagulant Therapy and Cardiovascular Disease Panel Discussion E S Nichol O P J Falk, G R Meneely and E Hull —p 943
Carotid Sinus Hypersensitivity as Sign of Intracranial Disease Case of Cerebellar Angioblastoma A Calix and T Findley —p 950
Psychosomatic Factors in Dermatology C S Wright —p 951
Porphyria J S Marietta —p 958
Acute Idiopathic Porphyria Report of Case J P Michaels —p 965
*Bromide Intoxication Report of 36 Cases J D Campbell —p 967
*Niacinamide in Bromide Intoxication R S Harris and P S Derian —p 973
Treatment of Bancroftian Filariasis with Hetrazan in Puerto Cabello Venezuela A L Briceno Rossi and R Hewitt —p 978
Prolonged Interval Dosage of Aqueous Penicillin in Surgical Infections J L Southworth and C H Dabbs —p 981
Typhoid Fever Treated with Aureomycin and Chloramphenicol M Scarzella C Migazzo and M Cappio —p 983
Treatment of Gonorrhea with Chloramphenicol C H Chen R B Dienst and R B Greenblatt —p 986
Studies on Chloramphenicol in Early Syphilis and Gonorrhea Preliminary Report H M Robinson and H M Robinson Jr —p 988
Further Studies with Pituitary Adrenocorticotropic Hormone (ACTH) T D Spies R E Stone S Dreizen and B F Morton —p 991
Fatality Following Tridione A N Berry —p 995

Bromide Intoxication —Campbell reviews 36 cases of bromide poisoning Symptoms of moderate bromide intoxication (blood bromide of 50 to 150 mg) are slowing of cerebration impaired memory and concentration nervousness anorexia sleep disturbance (insomnia or hypersomnia) dusky purplish discoloration of the skin maculopapular or acne like rash headache dizziness, fatigue and irritability Severe intoxication (blood bromide of 150 mg or above) may cause thickness or slurring of speech, personality change impaired sense of responsibility rambling of thought confusion hallucinations delusions disorientation lethargy, confabulation combativeness excitability and even delirium Determination of the bromide content of the blood will facilitate the diagnosis Unsteady gait, hyper active or absent reflexes tremors sluggish pupils poor coordination and nystagmus are the neurologic signs of bromide poisoning Sodium chloride is a specific antidote. In mild case 2 enteric-coated 15 grain sodium chloride tablets may be given four times daily In the moderate and severe cases the patient should be hospitalized Here sodium chloride may also be given intravenously *The author uses isotonic sodium chloride* solution intravenously plus sodium chloride tablets orally or 2 5 per cent sodium chloride, 1 000 cc per day intravenously Most patients even with severe intoxication recover within 2 weeks The mortality rate is less than 1 per cent. *Prescrip* tions containing bromides should always carry a "do not refill" reminder to the druggist The sale of bromides has been encouraged since the sale of barbiturates has been restricted The author feels that the sale of bromides should likewise be put under control

Nicotinamide in Bromide Intoxication—Harris and Derian call attention to the fact that chronic bromide intoxication presents a symptomatology similar to that of pellagra They noted an increased urinary excretion of total coproporphyrins in dogs on a nicotinic acid-deficient diet and in dogs on basal diet plus bromides Dogs on basal diet plus bromide, supplemented with massive doses of nicotinamide, failed to show increased urinary porphyrins or other signs of bromism Six patients with bromism showed an increased coproporphyrin excretion Two of these patients were treated with nicotinamide, 600-750 mg per day, in conjunction with sodium chloride therapy The remaining 4 patients were given nicotinamide only, in an attempt to clear neuropsychiatric symptoms while maintaining a relatively high serum level of bromide In both groups clearance of symptoms was accomplished in about five days Sodium chloride may be administered in conjunction with the nicotinic acid to hasten lowering of bromide level, or the symptoms may be alleviated with nicotinamide alone The latter procedure is recommended in cases of cardiac decompensation when sodium chloride is contraindicated

Surgery, St Louis

26 727-888 (Nov) 1949

Human Heart Rate Some Observations and Deductions Based upon Effect of Removing Portions of Sympathetic Nervous System in Man R H Smithwick L M Chapman, D Kinsey and G P Whitelaw —p 727

*Stab Wound of Heart Followed by Temporary Cessation of Heartbeat with Resuscitation by Cardiac Massage Clinicopathologic Study of I Case of Thirty Days' Survival A C Loken W Haymaker and D L Paulson—p 745

Tension on Suture Line in Peripheral Nerve Surgery E E Clifton —p 756

Disabilities of Knee Statistical Survey R E Burge—p 770

Old United and Ununited Fractures of Patella J Paschall Jr, R K Ghormley and M B Dockerty—p 777

Solitary Intrathoracic Neurofibroma Report of 2 Unusual Cases A S W Touroff and S O Sapin—p 787

Wound Healing and Heparin, Using Heparin Deposits R M Bendix and H Necheles—p 799

Variations of Thoracic Duct P A Van Pernis—p 806

New Technique and Guide for Angiostomy W A Dale—p 810

Production of Lesions of Gastroduodenal Mucosa by Frequent Sham Feeding D C Tanner, H D Janowitz and M I Grossman—p 816

Respirator for Use in Intrathoracic Surgery in Dog W A Gunkler and E B Mahoney—p 821

Cotton as Suture Material in Urologic Surgery D R Smith and R G Weaver—p 827

Jejunal Intussusception Unusual Complication of Use of Miller Abbott Tube D D Dunn and E W Shearburn—p 833

Original Drainage Cup Apparatus for Ileostomies and Fistulas M J Bellinger—p 837

Starch Sponge—Hemostatic Agent S S Rosenfeld—p 842

Effect of Removing Portions of the Sympathetic Nervous System on Human Heart Rate—Smithwick and his co-workers deal with patients who had different portions of the thoracic sympathetic chain removed for such conditions as disabling emotional or exertional tachycardia angina pectoris coronary artery heart disease, hypertension, vasomotor disorders of the upper extremities and hyperhidrosis The response of the pulse rate to exercise was studied before and then at intervals after removal of the thoracic sympathetic ganglions A slight modification of the "two step" exercise test was used The levels of resection were verified by roentgen identification of clips left at the operative site, by the presence or absence of Horner's sign, by skin resistance studies and by surface temperature determinations The evidence presented suggests that the cardioaccelerator fibers in man arise from the second to the fifth thoracic segments of the cord inclusive and bilaterally The outflow from the right side appears to be slightly more important than from the left The effect of unilateral cardiac denervation on the heart rate is slight by comparison with the effect of bilateral denervation After complete sympathetic motor denervation, the resting pulse rates are slower in all groups, particularly in those having more rapid rates originally The final rates are faster in the originally faster basal rate groups, suggesting that tachycardia (resting) is due to a combination of increased sympathetic and decreased vagus tone In response to exercise, the percentage increase in maximal heart rate is greater before than after operation, particularly in the slower rate groups After operation the accelerator response is the same in both groups This suggests that stimulation of cardioaccelerator fibers is superimposed on inhibition of vagus tone in causing increased heart rate in response to exercise in the normally innervated state Cardiac acceleration following sympathectomy appears to be the result of inhibition of vagus tone Resection of the cardioaccelerator fibers in man has been helpful in the management of hypertensive patients having unusual degrees of tachycardia It has also been helpful in a small group of patients having exertional or emotional tachycardia Cardiac denervation may be an effective procedure in certain cases of paroxysmal auricular tachycardia

Resuscitation After Cessation of Heart Beat—Loken and his associates report the case of a man, aged 29, who was stabbed in the heart Except for a slight elevation in temperature his condition remained satisfactory up to the sixth day, when roentgenograms taken from the lateral view disclosed a knife blade in the region of the right ventricular wall, which under fluoroscopy was seen to pulsate in unison with the heart The heart shadow was enlarged, and there was evidence of a small amount of fluid in the pericardial and left pleural cavities During the operation about 250 cc of blood was aspirated from the pericardium During this aspiration the heart suddenly stopped The pericardial cavity was opened, the heart massaged and epinephrine injected, whereupon the heart began to beat The cardiac arrest lasted three to five minutes The patient survived for thirty days thereafter He remained unconscious during the entire time Postmortem examination disclosed in the brain mainly disappearance and degeneration of ganglion cells and replacement by myriad microglia and a smaller number of astrocytes The cerebral cortex was the site of predilection, with the calcarine cortex bearing the brunt of the attack, an observation which bears reemphasis in view of the potential visual disturbance after nonfatal anoxia Other severely affected structures were Sommer's sector of the hippocampus, thalamus, striatum, cerebellum and medial geniculate body The white matter of the cerebrum was spared

Virginia Medical Monthly, Richmond

76 611-672 (Dec) 1949

Early Recognition of Psychoses P H Drewry Jr—p 613

Malignant Lymphoma Clinico-Pathologic Radiotherapeutic Classification P F Sahyoun, S J Eisenberg and F B Mandeville—p 620

Acute Non Specific Pericarditis Report of 5 Cases R H Sease and J R Beckwith—p 629

Need for Continued Treatment and Control of Venereal Diseases J M Suter—p 638

Aluminum Foil as Dressing for Burns W A Johns—p 640

Malignant Lymphoma—Sahyoun and co-workers report 54 patients with malignant lymphoma Definite criteria based on anatomic and other evidence were used in the differential diagnosis of these cases A modified "Gall and Mallory" clinicopathologic-radiotherapeutic classification is proposed according to which the 54 cases were subclassified in 3 cases of stem cell sarcoma, 6 of clasmatocytoma, 8 of reticulum cell sarcoma, 10 of lymphosarcoma with blood invasion (leukosarcoma) or without blood invasion, 24 of Hodgkin's disease, 1 of Hodgkin's sarcoma and 2 of giant follicular lymphoma The object of this classification is to point out that the so-called stem cell sarcoma resembles the undifferentiated mesenchyme and that any tumor included under the mesenchymal heading, when it becomes anaplastic, will develop into a cell type which approaches morphologically the primitive mesenchyme, regardless of whether its origin be lipoid, fibroblastic, myeloid or lymphoid This sliding scale with the primitive mesenchyme at one end and the fully differentiated tissues at the other was used in the prognostication of all the tumors of the mesenchymal group It was observed that the nearer the structure of the tumor approaches the indifferent mesenchyme, the more rapid is its course and the more dismal its prognosis

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted Single case reports and trials of new drugs are usually omitted

British Journal of Ophthalmology, London

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Von Hippel Lindau Disease Clinical and Pathological Report of Case I C Michaelson and J Hill —p 657
Antihistamines in Ophthalmology L. Mémeth —p 665
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Therapeutic Step in Acute Glaucoma G de L Fenwick —p 688
Early Post Operative Detachment of Choroid F Csillag —p 694
Incomplete Form of Mandibulo Facial Dysostosis (Franceschetti s Syndrome) G P Halberg and J M Paunessa —p 709
Ocular Allergy in Handlers of Streptomycin J Charamis —p 714
Contact Shell Applicator for Use as Corneal Bath M Klein —p 716

British Medical Journal, London

2 1065-1128 (Nov 12) 1949

Tuberculosis in Europe During and After the Second World War M Daniels —p 1065
*Risk of Neurological Complications in Pernicious Anaemia Treated with Folic Acid M C G Israels and J F Wilkinson —p 1072
Aureomycin New Treatment for Syphilis? R. R Willcox —p 1076
Common Difficulties in Infant Feeding R S Illingworth —p 1077
Antihistamines in Treatment of Nausea and Vomiting of Pregnancy Report on Clinical Investigation T Dougray —p 1081
Anaemia of Pregnancy in Glasgow and District J M Scott and A D T Govan —p 1083
Acute Mastoiditis in Children Treated with Penicillin and Sulphadiazine *A. J Moffett and G A Dalton —p 1087*
Electrocardiographic Investigation of 264 Cases of Hypertension P Bechgaard —p 1089
Sensitization to Denture Material as Cause of Angular Stomatitis H R Vickers —p 1091
Analgesia Inhaler for Trichlorethylene H G Epstein and R R Macintosh —p 1092

Neurologic Complications in Pernicious Anemia Treated with Pteroylglutamic Acid —Israels and Wilkinson review observations on a group of 20 pernicious anemia patients who either had not been treated before or had relapsed and whom they treated with pterolyglutamic acid (synthetic folic acid) alone. Three had initial signs of subacute combined degeneration of the spinal cord. In a three year period 13 patients without initial neurologic involvement showed signs and symptoms of subacute combined degeneration of the spinal cord which were relieved by change of medication to liver extracts or desiccated stomach preparations Three patients with initial neurologic symptoms and signs became worse neurologically after pteroylglutamic acid therapy Neither increasing anemia nor the hemoglobin levels could be used to predict the likelihood of neurologic complications Four patients were well after two or three years of oral administration of 5 to 20 mg of pteroylglutamic acid daily The use of pteroylglutamic acid for the treatment of pernicious anemia should be strictly limited to cases of special difficulty It should never be given to patients with subacute combined degeneration of the spinal cord

2 1129-1190 (Nov 19) 1949

Further Studies Concerning Participation of Adrenal Cortex in Pathogenesis of Arthritis *H Selye.—p 1129*
Tuberculosis in Europe During and After the Second World War M Daniels —p 1135
Variations in Bacteriology of Throat and Rectum of Infants in Two Maternity Units A M McFarlan P B Crone and G H Tee. —p 1140
Incidence of Infections in Infants in Two Maternity Units J D Roscoe.—p 1144
Relation of Staphylococcus Pyogenes to Infantile Diarrhoea and Vomiting G Martyn —p 1146
*Mortality and Survival Rates in Males with Silicosis or Silico-Tuberculosis H M Turner and W J Martin —p 1148
Paraffin Pneumonia M Gelfand —p 1151
Successful Treatment of 2 Cases of Gangrenous Intussusception in Childhood D J Conway and R. L. G Dawson —p 1153

Survival Rates in Silicosis or Silicotuberculosis —According to Turner and Martin, at Sheffield, which is traditionally the home of the grinder, as well as of a number of other trades that carry the occupational hazard of silicosis records have been accumulated of 857 men in whom some degree of silicosis or of silicotuberculosis was diagnosed Of these, 43 did not reach the age of 40 and were excluded The series consists of 814 men over the age of 40 Survival rates for men with silicotuberculosis compare unfavorably at all ages over 40 with the rates for men with pure silicosis or with the control rates for men in the general population There is a reduction of 13 years in the expectation of life at the age of 40 for the group with silicotuberculosis Up to the age of 51 the survival rates for men with pure silicosis are similar to those of men in the general population After the age of 51 there is an adverse deviation in survival rates for the group with pure silicosis This results in a decrease of eight years in life expectancy from age 40, as compared with the expectation of life of men *in the general community* It is suggested that this is due to the effects of silicosis on cardiorespiratory function and on the capacity to resist respiratory infections

Edinburgh Medical Journal

56 381-424 (Sept) 1949

Medical Aspects of Splenectomy H N Rob on —p 381
The Mentally Subnormal and Social Medicine R Bailey —p 396
Sturge Weber Syndrome Report of Case Showing Improvement After *Radiotherapy C Strang —p 409*
Cardiovascular Complications of Oesophageal Lesions A W Brinwood —p 415
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Lancet, London

2 925-972 (Nov 19) 1949

Pathogenesis of Atherosclerosis J B Duguid —p 925
*Anterior Tibial Syndrome A B Carter R L Richards and R B Zachary —p 928
*Thromboangiitis Obliterans Treated by Hypoglycaemia H Mazanek —p 935
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Effect of Head Down Position on Circulation in Hypotensive State A J P Graham and D M Douglas —p 941
Treatment of Lung Abscess by Inhalation of Micropulvarised Penicillin D T O Driscoll —p 945

Anterior Tibial Syndrome —Carter and his associates call attention to a peculiar syndrome involving the tibial muscles of the leg They have seen 9 cases in three widely separated areas of Britain The syndrome occurs chiefly in young men and consists of ischemic necrosis of the muscles of the anterior tibial portion of the leg with a lesion of the anterior tibial nerve. In most of the published cases the onset of the syndrome could be directly related to physical exertion involving strenuous use of the leg muscles In 2 cases in the present series the syndrome developed after a blood transfusion into the affected limb The salient clinical features are (1) pain in the front of the leg followed by (2) signs of inflammation over the pretibial muscles and (3) inability to dorsiflex the foot and toes Important negative observations are normal action of the peroneal muscles and a minimal degree of foot drop due to contracture of the ischemic muscles The authors suggest the following sequence of events Unaccustomed exertion causes muscle trauma, which is followed by increased pressure within the anterior tibial region, impaired blood supply to the affected muscles and ischemic necrosis The anterior tibial nerve is involved either by compression in which case it recovers rapidly, or by ischemia in which case the loss of function is permanent. The condition can probably be prevented by graduated physical training If the syndrome is recognized early rest alone may prevent irreversible damage to the muscles if paralysis has developed, it is advisable to resort to surgical decompression of the anterior tibial area as an emergency procedure.

Thromboangiitis Obliterans Treated by Inducing Hypoglycemia —Mazanek observed a significant increase in the peripheral blood flow during the hypoglycemic period produced by injection of large doses of insulin in the treatment of mental disorders Twenty years ago French workers treated effectively thromboangiitis obliterans with injections of 10 to 20 units of insulin daily for long periods, Mazanek *administered insulin in advanced cases of thromboangiitis obliterans which did not* respond to other treatment Insulin was given twice daily before breakfast and three hours after the midday meal Each course continued for about twenty days and was followed by an interval of ten days The number of courses depended on the patient's general condition and the peripheral blood flow If further treatment was needed after three or four courses, the patient was given a rest of about six weeks before the next course The initial dose of insulin was 40 to 60 units in the morning and 60 to 80 units in the afternoon Thereafter the amount was adjusted according to the blood sugar levels and clinical observations so that it would produce hypoglycemia lasting three hours Each of 20 consecutive patients with thromboangiitis obliterans responded favorably to repeated transient hypoglycemia Improvement was manifested by relief of rest pain, warmer and more normally colored skin, relief from claudication pain (complete in 4 cases) and lengthening of walking distance In 6 cases, in which the arms were involved, the skin became warmer and the fingers and hands were restored to almost normal color, edema and numbness were lessened Fine movements of the fingers, which were clumsy before treatment, returned almost to normal, the grip became stronger Upper limbs improved more quickly than the lower limbs Ulcers of the toes in 6 instances healed during the first course of treatment

South African Medical Journal, Cape Town

23 887-902 (Oct 29) 1949

Serologic Test for Syphilis Assessment of Its Diagnostic Value in General Practice S Sax—p 887
Epilepsy II Clinical and Therapeutic Considerations J F P Erasmus—p 892
*Diabetes Mellitus Pitfalls in Its Diagnosis M P Brasch—p 899

Diabetes Mellitus—Brasch says that there are still many pitfalls in the diagnosis of diabetes The first case cited demonstrates that it is inadvisable to rely on one determination of the blood sugar, unless the level is 130 mg or over per hundred cubic centimeters This case also shows that a diabetic patient can experience hypoglycemic attacks A second case shows that diabetes must be considered wherever there is a family history of this disease In such cases urine tests alone cannot be relied on and dextrose tolerance tests must be made There may be a high renal threshold, and one may receive specimens obtained at a time when the urine was free of sugar Commenting on a third case the author stresses that in asymptomatic cases of glycosuria, especially in persons without a family history of diabetes, a fasting blood sugar test should be done Unless this test shows decided elevation of the blood sugar level, the concentration should be determined two and one half hours after ingestion by the patient of a heavy carbohydrate meal or 100 Gm dextrose If the result is below 120 mg per hundred cubic centimeters, the patient is not diabetic If the result is well above 120 mg (160 or even 180 mg per hundred cubic centimeters) the patient is diabetic If the result is just above 120 mg a full dextrose tolerance test should be done in order to arrive at a correct diagnosis A fourth case indicates that even a true diabetic curve can give false information A diabetic dextrose tolerance curve must be viewed with suspicion if it was determined while the patient was on a restricted diet, the test should be repeated after the patient has been receiving sufficient carbohydrates for at least one week

Tubercle, London

30 241-264 (Nov) 1949

Host Parasite Relationship in Tuberculous Infection E M Brieger—p 242
Clinical Survey of Bronchiectasis B Mann—p 254
*Pleurisy with Effusion in Early Syphilis C D Calnan—p 260

Pleurisy with Effusion in Early Syphilis—Calnan reports a man, aged 42, in whom early secondary syphilis, jaundice and pleurisy with effusion were associated All responded to antisyphilitic therapy The presence of pleurisy in early syphilis is extremely unusual, no previous similar description being found in the literature Treponema pallidum were not found in the pleural fluid, but evidence was in favor of the illness having only one causative factor

Acta Obstet et Gynec Scandinavica, Stockholm

29 101-222 (No 2) 1949 **Partial Index**

Induced Labor Experience Through a Five Year Period S Stamer—p 101
*Cartilaginous Multiple Exostoses in Connection with Labor S Timonen—p 138
Roentgen Examination in Cases of Placenta Previa J A Abolins—p 150
Pathologic and Clinical Aspects of Theca Cell Tumors R J Kleitsman—p 175

Multiple Cartilaginous Exostoses Causing Complications in Labor—According to Timonen cartilaginous multiple exostoses belong to the same group of disorders that in America are grouped under the common term "chondrodysplasia," which describes the endogenous nature of these diseases They are due to a defect in the system of ossification Deformities of the epiphyseal lines develop during the period of growth As the epiphyseal cartilage grows, portions of undifferentiated connective tissue are displaced to the surface of the bone where they do not in the normal way give rise to osteoblasts but to chrondroblasts Thus no dense corticalis develops but a cartilaginous nodule which gradually ossifies and changes into spongiosa Owing to the cortical defect, these places appear in a vertical roentgenogram as clear areas whereas in the side view they stand out as nodules A cartilaginous layer remains on the surface of each exostosis Often nodules, spikes and even spurlike formations develop from the epiphyseal lines of all major bones The progress of the disease is restricted to the period of growth The multiple cartilaginous exostoses are hereditary The author reports a 24 year old primipara who had nodules on the fingers and the upper arms, first discovered at the age of 9 They grew slowly until the progress of the disease came to a standstill after her eighteenth year The patient was admitted to the hospital, because it was assumed that delivery was considerably overdue The labor was at first normal but later stopped in spite of effective contractions The os uteri was fully dilated On the right, near the juncture of the iliac and pubic bones, a horn-line formation 3 to 4 cm in height pressed against the head of the fetus Since this appeared to be an obstacle to delivery, a cesarean section was performed The head showed a deep indentation where it had been pressed upon by the large exostosis The infant survived only to the fourth day Necropsy revealed injuries and hemorrhages in the brain, bronchopneumonia and pleural empyema The exostosis in the mother was the cause of the fatal injury to the child The literature contains few warnings that cartilaginous multiple exostoses may result in an irregularly narrow and oblique pelvis likely to give rise to complications during labor

Acta Radiologica, Stockholm

32 81-250 (Sept 30) 1949 **Partial Index**

*Relationship of Hand Schüller Christian's Disease Letterer Siwe s Disease and Eosinophilic Granulomas of Bone With Report of 5 Cases P B Hansen—p 89
Roentgenographic Studies of Hydronephrosis Due to Obstruction at Uretero Pelvic Junction K Lindblom—p 113
Electrokymographic Recording of Auricular Movements T Andersson—p 121
Focal Exclusions in Renal Tuberculosis R Gay—p 129
Testosterone Propionate in Treatment of Advanced Carcinoma of Breast P E Andersen—p 159
Frontal Sinuses in Bronchiectasis Study on Morphological Basis of Lung Disease J Torgersen—p 185
Peptic Ulcer of Oesophagus G Thomsen—p 193
*Roentgen Treatment of Intracranial Gliomas A Engeset—p 210
Intraoral Mucous and Salivary Gland Mixed Tumors A Hoboek—p 229

Relationship of Hand-Schuller-Christian's Disease, Letterer-Siwe's Disease and Eosinophilic Granulomas of Bone—Hansen reports 5 patients whom he observed From the combination of symptoms in these 5 patients and from reports in the literature he concludes that Hand-Schüller-Christian's disease, Letterer-Siwe's disease and the eosinophilic granulomas should be regarded as different phases of the same disease, and that it is a disorder of the reticuloendothelial system It is not known what brings about this abnormal development of the reticuloendothelial cells, or why these peculiar granulomatous and xanthomatous formations ocur in this disease group It is not even possible to decide whether they are neoplastic or inflammatory processes. Thannhauser expresses the opinion that the xanthomatous formations are due to an enzymatic disturbance particularly in young proliferating reticular cells and have a certain relationship to Gaucher's and Niemann-Pick's diseases. It is possible that these diseases, and perhaps Tay-Sachs's disease, should also be grouped under the reticuloses. The author considers it of minor importance whether a collective term is coined for this group of diseases. Clinically it seems practical to use the established designations. It is important to realize that the three clinical pictures represent three phases of the same disease, which often has a serious prognosis and that the benign phase may develop into a malignant disorder especially in young persons.

Roentgen Treatment of Intracranial Gliomas.—Engeset says that following Nordentoft's favorable experiences in 1916 roentgen ray treatment was advocated for intracranial gliomas. In 1928 Bailey and co-workers concluded that roentgen therapy of intracranial gliomas should be undertaken only after an attempt has been made to extirpate the tumor provided it was localized or after a decompression has been done in case the tumor could not be localized. Engeset analyzes cases of glioma observed at the University Hospital of Oslo between 1932 and 1946. All these patients were treated with roentgen rays, but the majority were also operated on. In most patients the tumor was removed in part, in some cases only a biopsy specimen was taken. In other cases a palliative operation was performed. The 39 cases in which the histologic diagnosis was verified included 18 of glioblastoma multiforme, 12 of astrocytoma, 4 of medulloblastoma, 2 of oligodendroglioma, 2 of astroblastoma and 1 of ependymoma. A second group of 7 patients had tumors in the third ventricle and the pineal region. Their condition was diagnosed pneumographically and treated palliatively by ventriculocisternostomy. A third group comprised cases of cerebellar medulloblastoma. They were diagnosed clinically and treated with roentgen therapy only by the method of Sosman. All the patients with glioblastoma multiforme are dead. The average period of survival was nine months. Eight of the 12 patients with astrocytoma are surviving and feel better although they have some sequels such as epilepsy, aphasia, cramps and dementia. Of the 2 patients with astroblastoma a boy aged 6 years is living and in excellent condition seventy months after treatment, a woman aged 30 died three years after treatment. Of the 2 women with oligodendroglioma 1 died four years after treatment, but for six months during this period she had been able to work. The other patient became symptom-free for almost two years but died from a recurrence. Medulloblastomas have been treated in recent years with roentgen rays only, according to the method of Sosman. The results have been encouraging. One patient with cerebellar medulloblastoma survives one hundred and thirty-seven months after treatment. One patient has probable radiation injury of the brain after a total dose of 37,250 r against the left hemisphere. In order to avoid dangerous reactions small initial doses of roentgen radiation should be given for two weeks. Daily doses as small as 25 r are recommended for the first days, especially when decompressive craniotomy has not been performed.

Klinische Wochenschrift, Heidelberg

27 617-648 (Oct 1) 1949 **Partial Index**

Neurosecretory Connection of Hypothalamus and Hypophysis. W Bargmann.—p 617
Clinical Aspects of Epidemic of Poliomyelitis in Hamburg in 1947. R Aschenbrenner and K. Hansen.—p 622
*Effect of Fever Shock Therapy in Acute Rheumatic and Allergic Diseases: Its Significance for Acute Rheumatism. F E. Schmengler.—p 627
Gastric Cathepsin in Adults and Its Significance in Digestion of Proteins. R Merton, H Ratzer and E Kleffner.—p 635

Effect of Fever Shock Therapy in Acute Rheumatic and Allergic Diseases.—Schmengler points out that a number of reports in the German literature of the last two years discussed fever shock therapy in certain acute infectious diseases. He resorted to the injection of pyrifer, a vaccine of the colon bacillus in (1) acute rheumatic polyarthritis, (2) acute rheumatic fever without the involvement of joints, (3) polysymptomatic acute rheumatic conditions particularly in those with skin lesions and (4) acute allergic disorders with known antigens. All these forms reacted to the shock therapy with prompt defervescence and rapid disappearance of the local symptoms. The author feels that the shock therapy exerts its effect by a sudden overstimulation of the sympathicotonic status and the reaction to the shock is a parasympathetic predominance. The mechanisms involved become better understandable when the acute rheumatic disturbances are interpreted as cyclic infectious diseases. The focal point of the pathologic mechanism involved is an anaphylactic process which takes place in the cells and which sets into motion the reaction in the sympathetic system. Only this sympathetic reaction can be regulated by the fever shock therapy, the cellular process is not. The factors involved in the rheumatic complex are divided into three essentially different but functionally connected and intermerging phases. The first phase is that of sensitization, the second is that of equilibrium with few symptoms. During the third phase regulation fails and the acute outbreak follows. In the application of these concepts to the therapeutic plan the fever shock therapy is best suited for the acute process in the third phase, whereas antibacterial and bacteriostatic remedies, removal of foci of infection and preventive measures should be employed during phases one and two.

27 649-680 (Oct. 15) 1949 **Partial Index**

Mononucleosis in Virus Diseases. W Siede.—p 649
Contribution to Action Mechanism of Ultrasonic Waves in Human Tissues. K Stuhlfauth and K H Wuttge.—p 662
Formation of Gamma Globulin in Therapeutic Malaria. N Zollner.—p 670
*Mass Poisoning Due to Datura Stramonium in Bread Flour. P Pulewka.—p 672

Mononucleosis in Virus Diseases.—Siede observed, while making hematologic studies in the course of an epidemic similar to jaundice which is now generally referred to as virus hepatitis, a characteristic behavior of the mononuclear leukocytes. From the fact that practically identical hematologic changes are observed in other virus diseases, such as Pfeiffer's glandular fever (often referred to as mononucleosis), virus pneumonia and German measles, Siede deduces that this reaction of the mononuclear cells might be characteristic for certain virus diseases. He describes the changes in the mononuclear leukocytes and assumes that these changes are a manifestation of an irritation of the reticular tissues of lymphatic organs. He regards them as a specific defense reaction of the reticular cell system and as histologically analogous to the specific humoral defense bodies, the specificity of the defense reaction being morphologically identified by typical cellular manifestations.

Poisoning Due to Datura Stramonium in Bread Flour.—Pulewka reports that the inhabitants of a village in Turkey became ill with pain in the stomach, nausea, vertigo, dryness and bitter taste in the mouth and later had visual disturbances and unsteady walk. Some had hallucinations and delirium, manic psychosis, polyneuritis or herpes zoster. Examination of the flour from which the bread had been baked indicated the presence of atropine or similar substances. Microscopic examination of the flour revealed parts of the seed of Datura stramonium (thorn apple or Jamestown weed). The alkaloids contained in 100 Gm. of flour were equivalent in effect to 9.25 mg. of atropine sulfate, 7.7 mg. of atropine base or 3.85 mg. of hyoscyamine base.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

93 3457-3532 (Oct 8) 1949 **Partial Index**

Role of Liver Biopsy in Diagnosis of Enlarged Lymph Nodes in Pulmonary Hilus and Mediastinum. C van Beek and A J C Haex.—p 3465
Therapy of Acute Hematogenous Osteomyelitis. J A M Drijver.—p 3474
*Para-Aminosalicylic Acid in Therapy of Bronchial Tuberculosis. P C Gugelot.—p 3480

Para-Aminosalicylic Acid in Treatment of Bronchial Tuberculosis.—Gugelot reports 6 patients who reacted favorably to treatment with para-aminosalicylic acid. None of them had a cavernous pulmonary lesion but all had tubercle bacilli in the sputum. The clinical signs were those of tuberculous bronchitis without stenosis. The bronchial lesions of these patients cannot be regarded as part of a tuberculous pulmonary lesion, since they dominate the picture to such an extent that they must be regarded as an independent entity Bronchoscopy revealed ulcerating and necrotic lesions, and the bronchogram sometimes disclosed "stops" and bronchiectasis Para-aminosalicylic acid therapy was administered by inhalation and in the form of tablets The patients were given 9 to 12 Gm of the drug a day Treatment was continued for months, with a pause of five days after each ten day period Most patients tolerated the drug well Some had gastric disturbances, but these could be controlled Inhalation was always well tolerated Most of the patients were also given streptomycin Although streptomycin is unsurpassed in the treatment of ulcerative laryngeal tuberculosis, it is inferior to para-aminosalicylic acid in ulcerating bronchial tuberculosis

Nordisk Medicin, Stockholm

42 1687-1718 (Oct 28) 1949 Partial Index

Significance of Psychogenic Factor in Allergic Diseases Review E B Salen —p 1687
Circulatory Changes During Antabus Alcohol Reaction Preliminary Report K Raby and E Lauritzen —p 1693
Possible Diabetogenic Effect of Tetraethyl Thiuram Disulfide (Antabus) Preliminary Report L Lauritzen and K Raby —p 1694
Granulosa Cell Tumors U Rolfsen —p 1696

Circulatory Changes during Antabus-Alcohol Reaction Preliminary Report —In series of investigations of patients during the antabus (tetraethylthiuramdisulfide)-alcohol reaction Raby and Lauritzen found tachycardia and changes in blood pressure to be typical The fall in blood pressure may be of brief duration or may last several hours Electrocardiographic changes during the course of the reaction were demonstrable after a few minutes and lasted about thirty minutes to a couple of hours The changes are characteristic (1) flattening of the T waves, usually most marked in leads 1 and 2, (2) simultaneous shifting of the S-T segments downward, also most marked in leads 1 and 2, especially lead 2, and (3) tendency to transitory disappearance of a left preponderance previously present The changes appeared in one or all forms in about 90 per cent of the patients examined were transitory and apparently without harmful effect Like the changes in blood pressure, which also appear not to be dangerous, they seem to be a normal part of the antabus-alcohol reaction, but the occurrence of these changes during the reaction calls attention to the importance of medical control

Possible Diabetogenic Effect of Tetraethylthiuramdisulfide (Antabus) —Laboratory examinations and clinical control in Martensen-Larsen's 800 cases of alcoholism treated with antabus indicated that antabus in the usual therapeutic dose is without diabetogenic effect on nondiabetics Preliminary investigations on 15 well regulated hospitalized diabetic patients (5 mild cases, 6 moderately grave cases and 4 grave cases) given the usual therapeutic dose of antabus, with a total dose of 7 to 90 Gm during the test period of two to forty weeks, revealed no influence on the course of diabetes Lauritzen and Raby warn that changes in diet metabolism which follow when an alcoholic patient suddenly ceases to take alcohol and goes on an ordinary diet involve the possibility of a flare-up of a latent disorder not attributable to the antabus

Granulosa Cell Tumors —Rolfsen describes the 5 cases of granulosa cell tumors seen in the pathologic laboratory of Ullevål Hospital during the last ten years, when 779 ovarian tumors were examined, of which 56 were solid The average age of patients with granulosa cell tumors was 66, 1 patient was 75 and one 80 Meig's syndrome was present in 1 instance Diagnosis was not made preoperatively Radical treatment was given in only 1 case There was no recurrence during observation for one-half to one year Radical treatment is advised after the menopause, with removal of the uterus and both adnexa, and roentgen after-treatment, conservative treatment with removal of the tumor is recommended before the menopause Histologic examination of the tumors showed that a large proportion of the follicles consisted of thin-walled vessels which, like the granulosa cells, seemed to grow out of the theca cell layers Theca cells appear to be a constant and essential component of granulosa cell tumors Novak s theory that thecomas and luteomas represent different stages in the development of granulosa cell tumors seems to be supported

Praxis, Bern

38 953-974 (Oct 27) 1949

Some Problems in Internal Medicine W Hadorn G Riva and P Stucki —p 953
*Hyperthyroidism of Hypoestrogenic Origin and Its Hormonal Therapy J Lederer —p 957
Possibility of Room Disinfection by Aerosol Method E Wiesmann —p 961

Hyperthyroidism of Hypoestrogenic Origin —*Lederer* reports 1 woman aged 44 with toxic diffuse goiter developing after a total hysterectomy, 1 woman aged 38 with toxic diffuse goiter following a total hysterectomy and a bilateral ovariectomy and 2 women aged 51 and 53 with toxic diffuse goiter developing during a normal menopause The first patient was given 5 mg of estradiol benzoate (15 mg) three times during the first week, 5 mg (10 mg) of the drug two times during the second and third weeks and 5 mg weekly the ten following weeks, by the intramuscular route The second patient was given 25 mg of estradiol dipropionate the first week, 20 mg of the drug the second week, 15 mg the third week, 10 mg the fourth and fifth weeks and 5 mg weekly the following ten weeks, by intramuscular route One of the two older patients, in whom menstruation had ceased normally for five months and one year, respectively, received 10 mg of estradiol benzoate weekly the first two weeks and then 5 mg weekly the following eight weeks, and the second patient was given 10 mg weekly the first three weeks and 5 mg weekly the following eleven weeks Five milligrams per week is considered a physiologic dose The general condition of all 4 patients improved rapidly There was less fatigue, and the patients were calm and euphoric The basal metabolic rate was lowered, there was a slowing of the pulse and an increase in body weight Tremor disappeared, the goiter diminished in size and the exophthalmos regressed Animal experiments showed that the estrus-producing compounds prevent thyroid activity in three ways they check the production of the thyrotropic hormone by the anterior lobe of the hypophysis, they prevent the thyrotropic hormone from exerting its stimulating effect on the thyroid, and they have an antagonistic effect on the action of the thyroid secretion Clinically the estrus-producing compounds control hyperthyroidism only when the latter is of ovarian origin Treatment with estrus-producing compounds is the only physiologic treatment of hyperthyroidism available at present It is the treatment of choice in indicated cases

Prensa Médica Argentina, Buenos Aires

36 2107-2150 (Oct 21) 1949 Partial Index

*Dermatomyositis and Visceral Cancer M I Quiroga and H Bottrich —p 2107
Malignant Tumors of Biliary Tract Observations in Six Years on Biliary Surgery with Cholangiography During Operation A J Lasala —p 2136

Dermatomyositis and Visceral Cancer —Quiroga and *Bottrich* stress the association of acute dermatomyositis with visceral cancer They cite the case of a man aged 48 who was apparently in normal health until the appearance of dermatomyositis followed soon by the development of clinical symptoms and roentgenologic signs of visceral cancer Diagnosis of pulmonary cancer with metastases was made three months before death and was verified at necropsy

Presse Medicale, Paris

57 965-980 (Oct 22) 1949 Partial Index

*Streptomycin Resistance in Relation to Form of Tuberculosis, Its Significance in Management of Treatment E Bernard, B Kreis and A Lotte —p 965
New Treatment of Alcoholism A Requet and L Revol —p 966

Resistance to Streptomycin —Bernard and his co-workers observed that tubercle bacilli in the cerebrospinal fluid maintained their initial sensitivity to streptomycin in 11 of 13 cases of recurrent tuberculous meningitis, even though the patients had been given streptomycin for periods up to seven months Considerable differences with respect to resistance to streptomycin ranging from 1 to more than 1 000 units of the drug were observed in the same patient, depending on the location of the lesion from which the resistant strains were obtained—lungs and meninges, or lymph nodes and pleura Strains resistant to more than 10 units of the drug were observed in patients with pulmonary tuberculosis of ulcerous or fibrocaseous type The strains became resistant after thirty to sixty days of treatment in 25 per cent of the cases, after sixty to ninety days of treatment in 48 per cent and after more than ninety days of treatment in 70 per cent These results compare well with those obtained by American authors and may serve as a guide for treatment Streptomycin treatment of tuberculous meningitis may be prolonged for many months and may be repeated at once in recurrences Streptomycin may be given for long periods in miliary or nodular tuberculosis, although rare cases of resistance do occur Only 9 of 90 patients with pulmonary tuberculosis and cavities obtained closure of cavities when treated with streptomycin alone Follow-up for one to two years showed that closure was maintained in only 6 of these patients Cavities and caseating lesions present favorable environment for rapid multiplication of tubercle bacilli Growth of the sensitive strains may be arrested, but the few initially resistant strains continue their growth without interruption and soon become predominant Streptomycin therapy must be combined with collapse therapy which remains the main treatment of tuberculosis with cavitation Continuance of streptomycin therapy in patients with lesions containing organisms resistant to the drug not only is ineffective but may become an aggravating factor since certain organisms grow more rapidly in a medium saturated with streptomycin Streptomycin can be employed without restriction in many cases Its employment in some may rapidly become useless and even harmful

57 989-1012 (Oct 29) 1949

*Heparin and Rheumatism Antiexudative Effects of Heparin E Donzelot and H Kaufmann.—p 989
* Administration of Thyroxin After Thyroidectomy for Toxic Goiter in 700 Patients R. Berger—p 991
Early Surgical Treatment of Hodgkin s Disease R. Journoud—p 993

Heparin in Rheumatic Disorders—Donzelot and Kaufmann treated 8 patients who had rheumatic disorders with heparin Three intravenous injections of 100 mg of heparin at eight hour intervals were given daily for five to seven days Continuous perfusion with heparin in 500 to 1,000 cc apyrogenetic isotonic sodium chloride solution was practiced in severe cases Three hundred milligrams of heparin was given during the first twenty-four hours the dose of heparin being progressively increased to 450 and 600 mg during the following days under control of the coagulation time, which should not exceed 40 minutes The perfusion was continued for one week Considerable improvement resulted in 7 of the 8 patients who did not respond to salicylates 2 having rheumatic pancarditis in its terminal stage Arthralgia disappeared nearly instantaneously in some cases and within three to four days in others Periarticular edema and joint effusions were rapidly absorbed Pericardial effusion was absorbed in three to seven days In 1 patient with a pulse rate above 100, the rhythm was reduced to 65 in six weeks The prolongation of the P-R interval disappeared rapidly, and the slightly affected T wave was restored to normal The blood sedimentation rate was restored progressively to normal The authors believe that heparin exerts an antiexudative effect by absorption of exudate and edema and that it influences the protein equilibrium of the blood with which the phenomena of osmosis and exudation are associated Heparin may also have an effect on capillary permeability and may act as an inhibitor of hyaluronidase which seems to be an important factor in rheumatism This concept seems justified by additional observations in 3 cases of chronic polyarthritis in several instances of pleural and pericardial effusion associated with tuberculosis, of subacute pulmonary edema and of postphlebitic chronic edema Disturbances of coagulation and a tendency to exudate are frequently associated with a common humoral impairment Heparin seems to play an important part in maintaining the fluidity of the blood and in regulating the phenomena of osmosis and of diffusion

Administration of Thyroxin After Thyroidectomy for Toxic Diffuse Goiter—To prevent a postoperative thyroid crisis Berger administered thyroxin after thyroidectomy to 700 patients with diffuse toxic goiter A dose of 5 to 7 mg of thyroxin proved adequate in the majority of the cases Too high a dose may cause a toxic reaction with high fever severe tachycardia and apprehension A crisis may result from too small a dose The glycemia test is recommended to establish the adequacy of the given dose of thyroxin This test is based on the fact that a pronounced increase in glycemia following thyroidectomy is indicative of a decrease in the amount of thyroxin in the plasma as compared with the preoperative concentration

Revista Chilena de Pediatria, Santiago

20 315-362 (Aug) 1949 **Partial Index**

*Craniofacial Dysostosis Case Z Fuentes Acevedo and G Valenzuela Lavin—p 337

Craniofacial Dysostosis—Fuentes Acevedo and Valenzuela Lavin report the first case of craniofacial dysostosis in Chilean pediatric literature A 13 year old girl presented all the symptoms described by Crouzon as characteristic of the condition There was no familial tendency The authors studied the collaterals for three generations and did not find another instance of this syndrome Early diagnosis is important in the surgical treatment of the condition Operation in their case was not indicated because the patient was seen late after the establishment of ocular lesions and did not have intracranial hypertension The cerebral and ocular lesions remained unchanged during the seven years the patient was observed Neurosurgical intervention is indicated in cases with clinical symptoms intracranial hypertension and roentgen signs of craniostosis

Schweizerische medizinische Wochenschrift, Basel

79 931-950 (Oct 1) 1949 **Partial Index**

Treatment of Diabetic Coma with Cocarboxylase Experimental Basis and Clinical Results S Markees and F W Meyer—p 931
Employment of Purified (Recrystallized) Preparations of Insulin in Conditions of Insulin Allergy E Schwarz and I Koller—p 936
Resorption and Decomposition of Streptomycin in Colon M and H Roost Pauli—p 942

Diabetic Coma Treated with Cocarboxylase—Experiments carried out by Markees and Meyer on rabbits showed that pyroracemic acid is a normal constituent of the blood Large amounts of this keto acid were decomposed within a relatively short time by the healthy organism to which the sodium salt of the pyroracemic acid was supplied The diabetic organism in the compensated state presents a normal content of pyroracemic acid This acid cannot be exchanged with the same velocity when an extra load is placed on the organism and consequently its utilization is delayed Endogenous hyperpyruvemia is present in the state of decompensation that is in precoma and coma Insulin does not have an immediate effect on the utilization of the pyroracemic acid The fasting content of pyroracemic acid can be lowered by the administration of thiamine hydrochloride in normal animals and the delayed decomposition and exchange of pyroracemic acid can be normalized in diabetic animals Thiamine hydrochloride is no longer effective in the state of acidosis but the endogenous hyperpyruvemia may be cleared by the administration of phosphorylated thiamine hydrochloride the so-called cocarboxylase Diabetic rabbits in coma were saved by combined treatment with cocarboxylase riboflavin and insulin while all the animal treated with insulin alone died Analogous results were obtained in a study of the physiologic and pathologic conditions of the metabolism of the pyroracemic acid in 250 normal human beings and in 164 diabetic patients Therapeutic trials with thiamine hydrochloride pyrophosphoric acid (cocarboxylase) in patients with diabetic coma demonstrated that the *duration of* coma may be shortened by combining the usual treatment of coma with insulin and replacement of fluids with early, repeated intravenous administration of cocarboxylase and intramuscular administration of riboflavin Consciousness was restored rapidly, occasionally during the injection The increase of the alkali reserve was accelerated and the pyroracemic acid level restored to normal The purpose of administration of the coenzyme carboxylase is not that of a substitute for insulin The cocarboxylase helps to clear the diabetic acidosis by its action on a specific substrate which cannot be regulated by insulin The introduction of cocarboxylase in the treatment of coma thus presents an improvement of the therapeutic armamentarium

79 1043-1070 (Nov 5) 1949 **Partial Index**

Some Clinical Remarks on Surgical Indications in Blue Disease O Ritter —p 1043
*Parotitis in Parinaud's Conjunctivitis H Koumrouyan —p 1045
Clinical and Serologic Problems Connected with Rh Blood Group Research P Dahr —p 1047
Studies on Human Aborted Ova with Special Consideration of Early Malformations and Their Causes O Kaeser —p 1050

Parotitis in Parinaud's Conjunctivitis —Koumrouyan reports 2 cases of Parinaud's conjunctivitis with concomitant homolateral parotitis in 2 girls aged 11 and 10 years Both cases presented the same characteristics, an unknown etiology, absence of specific bacteria, and lack of clinical or serologic signs which would point to a specific disease such as tuberculosis, syphilis mycosis or tularemia Both patients had unilateral conjunctivitis with granulations, swelling of periauricular and cervical lymph nodes without tenderness and suppuration, and a diffuse unilateral parotitis, resembling virus sialadenitis such as is observed in epidemic parotitis or in epidemic submaxillitis due to virus The acute swelling of the salivary gland occurred early, simultaneously with, or perhaps even before, the periauricular adenitis in the first patient, and after the appearance of the adenopathy in the second patient The parotitis ran a rapid course, but without suppuration and without macroscopic modification of the saliva Parotitis subsided first, swelling of the lymph nodes next and conjunctivitis last Acute diffuse swelling of the salivary gland was demonstrated by sialography The author believes that his report of Parinaud's conjunctivitis associated with parotitis is the first in the literature He suggests that the term "Parinaud's triad be substituted for the old term 'Parinaud's conjunctivitis The syndrome is characterized by unilateral conjunctivitis with granulations, periauricular and cervical adenitis and unilateral parotitis All the lesions of this symptom triad are homolateral, and one or the other of the symptoms predominates in a given case

Semaine des Hôpitaux de Paris

25 3495-3528 (Nov 14) 1949

First Satisfactory Results Obtained with Aureomycin in Rickettsioses in North Africa E Benhamou, Destaing Ferrand and others —p 3495
Role of Pituitary Hypothalamic System in Pathogenesis of Erythremia (Vaquez' Disease) E Haynal, F Graf and E Matsch —p 3498
Post Traumatic Nervous Disturbances P Milliez and F Lhermitte —p 3501
*Surgical Treatment of Hodgkin's Disease J Bernard and B Ossipovski —p 3503
*Role of Peritoneal Dialysis in Treatment of Acute Uremia M Dérot —p 3508

Surgical Treatment of Hodgkin's Disease —Bernard and Ossipovski operated on 3 patients with Hodgkin's disease, 2 boys aged 11 and 9 years and a young woman aged 19, removing a cervical lymph node in the first patient and a subclavicular lymph node in the second and third patients The patients were alive and in good health eleven, eight and six years, respectively, after the intervention Surgical treatment is indicated in recent, isolated lesions of moderate size It is contraindicated in multiple lymph node or visceral involvement associated with fever, although even then results may not be unfavorable Clinical, experimental and therapeutic data show that a malignant disease of the blood may be localized in its early stage and that early surgical removal of the initial focus may result in long survival According to the authors' concept the nature of malignant diseases of the blood may differ Each disease may be formed by a combination of various syndromes, some resulting in two or three foci in the initial stage and some in a single focus in the initial stage The occurrence of a single lesion in the initial stage seems to be demonstrated not only in Hodgkin's disease but in other malignant diseases of the blood as well This concept makes it imperative to track down the initial and localized manifestation Removal of the initial tumor, whether in lymph nodes, skin, bone or viscera, rather than the generally practiced biopsy, is advisable in the absence of contraindications Results may not be brilliant and often may be disappointing The initial lesion in Hodgkin's disease may be mediastinal or abdominal and therefore inaccessible The superficial adenopathy may appear isolated, but careful examination may reveal an affected mediastinal lymph node, contraindicating surgical intervention The results obtained in the authors' cases justify cautious pursuit of surgical therapeutic trial

Peritoneal Dialysis in Acute Uremia —Derot treated 13 patients with acute uremia by peritoneal irrigation One patient had scarlatinal anuria, 4 had mercurial nephritis, 5 had hepatonephritis caused by Clostridium perfringens, 1 had glomerulonephritis from exposure to cold, 1 post-transfusional nephritis and 1 acute cryptogenetic hepatonephritis Ten patients made a complete recovery There were 2 deaths from acute pulmonary edema The technic consisted in the introduction into the peritoneal cavity of an inlet and an outlet plastic tube 2 to 3 mm in diameter Abbott and Shea's solution A, containing sodium chloride, calcium chloride, potassium chloride, sodium phosphate, magnesium chloride, sodium bicarbonate and dextrose, was employed It was heparinized in the ratio of 10 mg per liter, and 100,000 units of penicillin were added to it The necessity of using a slightly hypertonic, heparinized solution to which penicillin was added is stressed Irrigation with 30 liters of the solution within twelve to sixteen hours proved to be most effective and free from accidents Forty to 60 Gm of urea may be removed from the body by a single dialysis Irrigation may be repeated on the following days Intraperitoneal irrigation is well tolerated and accidents are rare It is contraindicated in patients recently subjected to laparotomy and in the presence of suppurative pelvic lesions It does not require complex and expensive apparatus as is the case with the artificial kidney Intraperitoneal irrigation should be used alternately with exchange transfusions when possible Results obtained with the combined use of exchange transfusions and peritoneal irrigation are superior to those obtained with either method alone

Ugeskrift for Laeger, Copenhagen

111 1281-1322 (Nov 17) 1949

*Preliminary Experiences with Ultranol Treatment of Sarcoid of Boeck L Gilg —p 1281
Psychosomatic Ophthalmology E Godtfredsen —p 1285

Preliminary Experiences with Ultranol (Vitamin D_2) Treatment of Sarcoid of Boeck —Gilg reports that in the dermatologic division of the Finsen Institute vitamin D_2 has been used almost exclusively in the treatment of sarcoid of Boeck during the last two years Forty-two patients, mostly in the 40 to 50 age group, are being treated Before the start of treatment examinations are made to confirm the diagnosis, determine the extent of the disease and exclude the presence of other diseases which might contraindicate the treatment Severe organic heart disease and kidney diseases are considered absolute contraindications Although the short observation period does not allow final evaluation of the results, the conclusion at this stage is that vitamin D_2 therapy of Boeck's sarcoid can lead to subjective and objective improvement which seems to surpass the results attained by earlier methods of treatment It is possible by careful control to avoid undesirable side effects Treatment is now begun with a dosage considerably lower than that used in lupus vulgaris, and the vitamin is discontinued or the dosage reduced on the first symptom of intoxication

Book Notices

THE REVIEWS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES AND DO NOT REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED

Blood and Plasma Transfusions By Max M Strumia M.D Sc D Associate Professor of Pathology Graduate School of Medicine University of Pennsylvania and John J McGraw Jr M.D Instructor in Pathology Graduate School of Medicine University of Pennsylvania Philadelphia Cloth $7 50 Pp 497 with 124 illustrations F A Davis Company 1914 16 Cherry St Philadelphia 3 1949

The opinions and work of two recognized authorities on blood and plasma are presented compactly in this book Dr Strumia is a world-renowned pioneer in the use of and studies on plasma, his work has always shown originality and ingenuity Dr McGraw his associate, had wide experience in blood transfusion therapy during World War II They write from vast personal knowledge and practice in this field The valuable material offered in this relatively small, neatly assembled and clearly printed volume should be read and referred to by everyone who uses blood or plasma frequently or is responsible for blood bank organization and management

The book obviously is meant to present personal experience and opinions, for it has a minimum of references and few quotations from other literature. This increases its readability However, when the authors discuss material not based on original work, as in the early chapters, complete coverage of some subjects is lacking and references are incomplete One further point of criticism is the relatively large amount of space devoted to plasma. While this discussion is of great historical and developmental interest, present day use of plasma compared to whole blood and blood fractions has diminished greatly Plasma protein fractions are given only brief attention considering their increasing possibilities

Despite these omissions this volume is so important and useful as a concise and authoritative text on blood and plasma transfusions that the book should be kept at hand and not merely consulted as an occasional library reference.

Health Guides and Guards By Francis P Wall Professor and Director of Physical Training and Hygiene New York University New York and Louis D Zeidberg M.D M P H Assistant Professor of Epidemiology Columbia University School of Public Health New York Fourth edition Cloth. $4 Pp 390 with 12 illustrations Prentice Hall Inc 70 5th Ave New York 11 1949

Evidence of a sincere effort on the part of the authors to keep their material up-to-date, as well as of acceptance by the intended recipients, is found in the fact that this is the third revision of the popular book for young adults Another desirable feature is the recognition that interest in health education may shift from time to time, requiring more emphasis on special aspects that in previous times may have come in for secondary attention A case in point is the transfer by the authors of the section on the genital system, venereal diseases and sex hygiene to an early part of the volume Devotion of nine chapters to this general topic indicates the completeness with which it is handled

The book is divided into two principal parts, personal hygiene and community hygiene. In addition to the chapters on sex aspects, the important systems of the body are discussed in individual chapters, with a final chapter on first aid in the first part.

In the second part are chapters on infection and immunity contact diseases and those spread by intermediate hosts water, milk and food sanitation, sewage and refuse disposal and public health administration In this last chapter the tremendous extent to which federal agencies have entered the field is described, with some reservations as to whether this will work for ultimate good There appears to be some overemphasis on work done by such groups as compared with that done by industrial and private agencies

An interesting feature of the book is a series of 27 sets of questions intended for class use. The yes-or-no technic of reply is employed The questions have been selected carefully and are definitely stimulating in nature. Twelve illustrations are provided chiefly diagrammatic in character

Physik für Mediziner Von Hofrat Professor Dr Fritz Hauer Wien Boards 49 Austrian schillings Pp 397 with 498 illustrations Urban & Schwarzenberg Frankgasse 4 Wien IX/71 1949

This systematic presentation of physics from the standpoint of the physician and medical student merits high praise. Every important aspect of physics is treated accurately and concisely and the application to medicine is made clear Unexpected light is sometimes shed on familiar subjects as when the author applies the dynamics of moving particles to corpuscular sedimentation The section on mirrors and lenses contains diagrams to show the construction of ophthalmoscopes and cystoscopes for instance and many other examples might be mentioned to show how this book aids in the understanding of technical problems in medicine. Mechanics acoustics heat optics electricity and ionizing radiations are taken up in turn The presentation is not popular, for it is orderly and precise but the concreteness of expression and the unaffected style make it easy reading for anyone with a reasonable command of scientific German The illustrations, drawn with a most commendable accuracy and clarity, are outstanding The section on optics comprising 86 pages and 112 illustrations would be a welcome supplement to some current American textbooks of physiology which have been known to omit the subject of vision altogether This book should be accessible to every medical student and it deserves translation into English

Children of Today and Tomorrow By Ethel Dukes and Margaret Hay Preface by David Mace M.A B Sc Ph.D Cloth. $2 50 Pp 21 The Macmillan Company 60 5th Ave New York 11 1949

Much helpful background and practical information for parents teachers, psychologists and social workers is contained in this book, which is based on firsthand experiences of qualified workers in the field of pediatric sociology As the introduction implies, it is time for revision of older concepts and the adoption of new concepts to bring this subject into proper focus for modern needs

A logical division into three main parts is followed by the authors, with the over all headings of Children and What We Make of Them 'Discerning Individual Differences and The Parent-Child Relationship ' The many probabilities in a child's future are gone into extensively in the first section with an especially good chapter on a wide variety of practical problems including enuresis speech defects and educational difficulties Full details of satisfactory routines that have been established are described In the second section there is demonstration of fine discernment in the various chapters dealing with the hypersensitive child, the dull child the gifted child and several other classifications

Average parents will find much of interest in the last section in which many specific examples illustrate problems developed through unsatisfactory adjustment of families Specific advice on how parents may obtain help for difficult children is provided in an appendix, in which are listed physical defects that should cause concern and routines for referral A second appendix contains a list of 32 books recommended as helpful for collateral reading Physicians should find this volume worth recommending to parents who have child relation problems and may even recognize them but are confused and need helpful orientation to enable them to understand and work with the physician toward an effective solution

Diseases of the Heart. By Charles K. Friedberg M.D Associate Physician Mount Sinai Hospital New York Cloth $11.50 Pp 1081 with 79 illustrations W B Saunders Company 218 W Washington Sq Philadelphia 5 7 Grape St Shaftesbury Ave London W C 2 1949

The author has created an entirely new textbook on the heart which should appeal strongly to the medical student whether he is just beginning or is far advanced in graduate work, and to practicing physicians who seek accurate information on any of the facets of this increasingly complicated subject The text is arranged in six parts all of which are well integrated to avoid unnecessary repetition and to make it easier for consultation Each chapter is fully related by cross reference

In the preface Dr Friedberg says that he tries to present a comprehensive and integrated discussion of the several diseases and disorders of the heart and remarks correctly "The swift pace of recent advances in this subject calls for a reorientation in presentation and a modification in emphasis from that" usually found He has been successful in accomplishing his purpose Certainly the point of view is suited to thoroughness and clarity of understanding of each of the many problems with which he deals, and the material is unusually abreast of most modern knowledge The entire field of diseases of the heart has been adequately covered

Part I deals with function of the heart and its impairment, including general matters of the mechanisms involved, the causes of the phenomena resulting and pathogenesis of each phenomenon A section on circulatory measurements includes all of the accepted methods and is followed by one on treatment Next the arrhythmias are discussed, including their electrocardiographic manifestations, and sound recommendations are made for their management Part III deals comprehensively with the various disturbances in the blood supply of the heart, their causes, effects and treatment Then long and adequate sections are devoted to the structural abnormalities of the heart and to the etiologic forms of heart disease, the latter of which requires some 400 pages The book closes with sections on such of the special problems of heart disease as pregnancy, surgery and insurance as well as compensation in relation to heart disease A detailed index is included Throughout the text there is a modern and full bibliography The volume certainly deserves high praise for its intrinsic soundness and merit Few can afford to omit it from their libraries

***Die Psychohygiene* Grundlagen und Ziele, Psychoanalyse und andere Psychotherapie, Sonderfragen der Medizin, Soziologie, angewandte Psychohygiene** Herausgegeben von *Maria Pfister-Ammende, unter* Mitarbeit von F Alexander et al Bücher des Werdenden' Zweite Reihe Band II Herausgegeben von Paul Federn und Heinrich Meng Boards 28 Swiss francs Pp 423 Hans Huber, Marktgasse 9, Bern 16 (distributed by Grune & Stratton Inc, 381 4th Ave, New York 16), 1949

The text of this work is in German with brief summaries in French and English It is in effect a compilation of papers on the subject of mental hygiene by prominent psychiatrists and psychoanalysts of Europe, England and the United States The summaries indicate the content of each paper but the full import of the authors' views on mental hygiene can be gained only by reading the German text

In the section on sociology are presented papers on race hatred, prevention of war and the problems of peace among nations National mental health is covered as well as the mental health of individuals These papers are an introduction to a subject which must be explored further by the students of individual and collective behavior if men are to live in harmony

The mental health of various age groups and specific problems of these age groups are discussed as well as such problems as alcoholism, drug addiction, marriage and religion Most of the papers are psychoanalytically oriented, although many of those dealing with specific problems are eclectic in approach The latter part of the volume deals with public health, mental hygiene clinics, public education on the subject and the teaching of mental hygiene These papers are of particular importance to those who are directly concerned with mental health as part of the general problem of public health

This collection of papers as a whole and certain individual presentations would be of value to general physicians, public health personnel, psychiatrists, sociologists and even politicians Translation of these papers into English is recommended so that they may be more generally read

Textbook of Physiology By William D Zoethout Ph.D, and W W Tuttle, Ph D, Professor of Physiology, College of Medicine, State University of Iowa, Iowa City Tenth edition Cloth $4 75 Pp 710, with 307 illustrations The C V Mosby Company, 3207 Washington Blvd, St *Louis* 3, 1949

The present edition of this popular textbook for dental and pharmacy students has been extensively revised to include significant recent contributions The entire book has been rewritten The material is clearly presented, and the topics are satisfactorily selected The illustrations are of good quality and well distributed This book can be recommended as a textbook for a physiology course for dental students

***The Maggid of Caro* The Mystic Life of the Eminent Codifier Joseph Caro as Revealed in His Secret Diary** By Hirsch Loeb Gordon, A M Ph D, M D Based on Unpublished Manuscripts Cloth $4 Pp 306 with 182 illustrations Pardes Publishing House, Inc., 28 Canal St New York 2 1949

This book deals with the life of Joseph Caro (1488-1575), an exiled Spanish Jew who for more than 52 years received messages from his familiar spirit, or Maggid, which communications were described by him in Aramaic in his diary, "Maggid Mesharim" Representative selections from the diary, which with the author's comments occupy more than half the book, are said to be its first translation into any other language

These messages came to Caro uttered aloud from his own mouth, as was attested by various scholars The nature of them constitutes the book's center of interest To this end the views of fourteen authorities, mostly psychiatrists, are presented first of all, with almost as many different conclusions and diagnoses as to the diarist's mental state Dr Gordon himself favors an interpretation of hallucinations and hypnagogic dreams but no psychosis Analogies with other mystics come to mind, but here is found in addition to *maggidim* a formidable array of more or less personified supernatural communications—*oboth, yideoni, gillui Elijah, golem, dibbuk, ruah, bath Kol, pitka, yezer, gilgul, malakim, shedim* (with five subvarieties specializing to cause specific human diseases) and *sarim,* together with non-Jewish *lares, lemures, genii* and *daemones*

Unfortunately, this unusual and promising subject is greatly marred by the presentation The erratic arrangement of material, which contains much that is irrelevant, the author's poor critical judgment and the unnecessary crowding of the text and illustrations with weird names and characters constitute weaknesses that are surpassed only by the slovenliness of the book making The cover is weak, the paper cheap and most of the illustrations atrocious, with halftones so coarsely screened that they are almost unintelligible Composition and proofreading are carelessly done — seven typographical errors were apparent in a casual perusal of the first 27 pages One would think that these defects would be irritating to all cultured readers To the prevailing mediocrity, the frontispiece, a reproduction of a modern portrait drawing of Caro, and an adequate index are welcome exceptions that help one to overlook the imperfections, if one is sufficiently interested to learn details about this peculiar and well authenticated psychic phenomenon

Operations of General Surgery By Thomas G Orr M D, *Professor* of Surgery, University *of* Kansas School *of* Medicine, Kansas City Kansas Second edition Cloth $13 50 Pp 890 with 721 illustrations W B Saunders Company, 218 W Washington Sq, Philadelphia 5 7 Grape St, Shaftesbury Ave, London, W C 2 1949

This book presents to general surgeons and surgical residents a balanced account of modern operative technics in general surgery and in the special fields of surgery The new edition follows the plan of the previous edition, and chapters are arranged by systems such as thorax and respiratory system, breast, digestive system and female reproductive system The book is remarkable for including nearly every type of operative procedure Additions and revisions have been made in many chapters to include the new technics for esophagogastrostomy, total gastrectomy, repair of strictures of the bile ducts and surgery of the heart and great vessels The text is interesting to the point and easily read A valuable feature of the book is careful consideration of the dangers and safeguards for every operative procedure To simplify his text, the author has selected only the most accepted technics for each operation For example, in considering operations for carcinoma of the rectum, he has chosen the Miles one stage abdominoperineal, the Lahey two stage operation, the Lockhart-Mummery posterior resection of the rectum and Dixon's technic for anterior resection of the rectum with preservation of the sphincter Such a careful choice represents the operations most frequently used and acceptable to each school of thought, but omits the great number of variations of the standard procedures which would confuse a beginner

The majority of drawings have been selected from the works of other authors and for most of the common operations of general surgery are well chosen and adequate In depicting some of the specialized procedures, such as pulmonary resection and esophagogastrostomy, the detail is not sufficient unless one is familiar with this type of surgery In selecting operations on the sympathetic nervous system, the operation for preganglionic section generally used where dorsal sympathectomy is indicated has been omitted. Four types of sympathectomies are described for hypertension, two of which might be considered inadequate and obsolete by some surgeons With respect to the material on page 96, an inexperienced surgeon might assume that pedicled flaps are often used to cover the skin defect after excision of Dupuytren's contracture, but these are employed only in extreme cases Free full thickness grafts are considered best

These are minor criticisms and do not detract from the book itself The book is well organized and compiles in one volume the operative methods used in nearly every type of operative procedure It is highly recommended for both the general surgeon and the surgical resident

The Eye and Its Diseases By 92 International Authorities Edited by Conrad Berens M D F A C S Managing Director of The Ophthalmological Foundation Inc. New York Second edition Cloth $16 Pp 1092 with 436 illustrations W B Saunders Company 218 W Washington Sq Philadelphia 5 7 Grape St Shaftesbury Ave London W C 2 1949

This general textbook of ophthalmology is unique because of the collaboration of a large group of experts 92 in number, each of whom is a recognized authority in the particular field in which he writes Many of the chapters appear in fact to be *condensations* of larger *monographs* previously *published* by their authors Little criticism can be made of the factual material presented except that in a few isolated cases, such as in the chapter on accommodation, the author presents personal views which are not generally accepted While stating of unorthodox opinion in a basic textbook is not necessarily objectionable this does not appear to be the appropriate place to emphasize one s personal theories to the exclusion of other views

This second edition has been brought up to-date and includes several features not encountered in most similar textbooks The most commendable of these are the chapters dealing with the history of ophthalmology medical jurisprudence, pathologic technic, bacteriologic technic and preventive ophthalmology New chapters have been added on illumination physiologic chemistry and gonioscopy With so many authors contributing chapters, some deficiency in continuity is to be expected, but on the whole the editor has done a satisfactory piece of work in arranging the material Occupying as it does a position midway between the various abbreviated textbooks and Duke-Elder s monumental work, this book has an important place in any ophthalmologic library

Techniques of Supervision in Public Health Nursing By Ruth B Freeman R N B S M.A Administrator Nursing Services American National Red Cross Washington D C Second edition Cloth $5 Pp 466 W B Saunders Company 218 W Washington Sq Philadelphia 5 7 Grape St Shaftesbury Ave London W C 2 1949

This book presents a comprehensive picture of the many responsibilities and contributions of the supervisor and suggests technics and methods by means of which these can be most effectively implemented The author intends that these suggested approaches to supervisory functions be regarded merely as guiding fundamentals, the interpretation and application of which are subject to the analytic ability and creative ingenuity of the supervisor

All persons within the sphere of supervisory activities will be aided in their perspectives by the author s reminder of the tremendous potential of the supervisor in translating agency policies, in coordinating interdepartmental and other agency services and in promoting optimum functioning of the staff At the same time, she points out the limitations of the supervisory process in the face of unsound administration inadequately trained personnel and indecisive policies The discussion of common challenging interpersonnel relationship problems and the application of the principles of practical psychology in their solution will help develop insight into everyday problems and will provide one with working tools with which to meet them Practical hints on such collateral supervisory duties as office administration, construction of manuals, maintenance and use of equipment and maintenance of staff health are included

Although directed toward the field of public health this comprehensive well-written book can be recommended for use in the teaching and guidance of supervisors or potential supervisors in any aspect of the nursing field. It should be included in the reference libraries of all schools of nursing and hospitals

Digitalis and Other Cardiotonic Drugs By Eli Rodin Movitt M D Chief of Medicine Veterans Administration Hospital Oakland Calif Second edition Cloth $5 75 Pp 247 with 22 illustrations Oxford University Press 114 5th Ave New York 11 1949

Emphasis is placed on clinical use of digitalis and the cardiac glycosides rather than on chemical or pharmacologic studies The recent important work on the mechanism of action of digitalis in congestive heart failure is well reviewed and expertly analyzed Each of the commonly used glycosides such as digitoxin digoxin lanatoside C gitalin and ouabain is discussed at length with a thorough review of the literature The bibliography at the end of each chapter is extensive This book is an excellent reference for the medical practitioner who needs authoritative information on the use of the many digitalis like products now on the market. For those who like to delve more deeply in the subject it would have been advantageous to have a short review on the interesting chemical developments that have taken place in this field, particularly the studies relating chemical structure to pharmacologic action Although some of this material is included with the discussion of each particular glycoside an earlier section in which the general principles were discussed before taking up each glycoside separately would aid one to obtain a clear understanding of the whole subject

Le diagnostic bio clinique en radiologie pulmonaire Par Georges Voluter P D de radiologie médicale a l Universite de Geneve Paper 40 Swiss francs Pp 452 with 100 illustrations S Karger Holbeinstrasse 22 Basel 215 Fourth Ave New York 3 1949

This book stresses the value of teamwork in approaching the interpretation of roentgenographic studies of the lungs The importance of a dynamic conception of lung pathology is emphasized The author considers sensitization, immunization and allergy as they modify pulmonary lesions Under the name constellation ' he describes in detail the different possibilities of pulmonary reactions in the presence of tuberculous infection and its pathogenesis He also discusses the organic and functional responses of arteries, capillaries veins and lymphatic and connective tissue elements Considerable theory is devoted to the implications of his observations

In every chapter the author considers at length the pathology and pathogenesis of the various lesions Of particular interest is his discussion of erythema nodosum and Löffler s syndrome There is also an excellent discussion of reticulosis Boeck s disease eosinophilic granuloma and other diseases This book is well written, the only criticism from the standpoint of the radiologist is the paucity of roentgenograms and pathologic sections Many illustrations could not be included because of the high cost of publication However those that are included are excellent

Black s Medical Dictionary By John D Comrie M A B Sc M D Revised by William A R Thomson M D Nineteenth edition Cloth $5 50 Pp 995 with 513 illustrations [The Macmillan Company 60 Fifth Ave New York 11] Adam and Charles Black 4 5 & 6 Soho Square London W 1 1948

This publication is distinctly British in character as well as origin As with all previous editions this one is designed to provide a nontechnical dictionary of medical terms diseases and methods of home treatment and sanitation for guidance of the layman nurse and other medical personnel responsible for the care of the sick, particularly in the absence of advice or supervision of a qualified physician The latest edition is intended to include advances in medicine since the eighteenth edition was reprinted (with slight changes) in 1946

This dictionary is a veritable storehouse of information concerning the variety of terms used in medicine. It thus constitutes a reference work of considerable value to those interested in the various aspects of the subject There are few typographic errors and the text is written in the clarity and brevity of style for which the British are justly noted. Most of the terms and names for drugs are peculiarly British both in spelling and usage. This limits its usefulness in English-speaking countries outside the main sphere of British influence or wherever the traditional English spelling and terminology has been abandoned.

The book is considerably out-of-date concerning both recent and not so recent advances of American medicine. For instance, the statement that Blaud's Pill is "much used in the treatment of anaemia" is not true in the United States, where superior iron preparations have superseded it. This illustrates what is true for most of the statements in the book in that they are apparently applicable to practices still prevailing in the United Kingdom. The book therefore falls short of including the more modern concepts in the therapy of disease. Another example of this is illustrated by the antiquated discussion of treatment for pneumonia, which fails to mention the use of penicillin and sulfonamides other than the relatively toxic derivatives sulfanilamide and sulfapyridine. Some of the newer, less toxic sulfonamides and antibiotics are elsewhere defined, but their various therapeutic applications are not adequately covered. This publication cannot be considered a reliable guide to modern concepts in the treatment of disease, and it thus fails to achieve that important phase of its purpose.

A Textbook of Physiology. Originally by William H. Howell, M.D. Edited by John F. Fulton, M.D., Sterling Professor of Physiology, Yale University School of Medicine. With the Collaboration of Donald H. Barron and others. Sixteenth edition. Cloth. $10. Pp. 1258, with 556 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftsbury Ave., London, W.C. 2, 1949.

Since the 1946 edition of the well known textbook originated by William H. Howell in 1905, some obsolete material has been deleted, some portions have been completely rewritten and new chapters have been added. The most extensive addition, six chapters on the endocrine glands by Dr. Jane Russell, add to the completeness of the text but are rather narrow and uninspired in presentation. Dr. Samuel Gelfan has written an excellent new chapter on the functional activity of muscle. As textbooks go, this one seems acceptable.

A Companion in Surgical Studies. By Ian Aird, Ch.M., F.R.C.S., Professor of Surgery in the University of London. Cloth. $15. Pp. 1060. Williams & Wilkins Company, Mt. Royal & Guilford Aves., Baltimore 2, 1949.

Although published without illustrations, the book by Mr. Aird, a leading British surgeon, has achieved an excellent and detailed review of general surgery. The British point of view differs only moderately from that in the United States, and the carefully written, detailed and comprehensive text should make a welcome addition to surgical literature. All phases of surgery are covered and readily accessible through a carefully outlined 53-page index. The unique combination of pictorial language and thoroughness of detail will interest particularly those receiving training in surgery and those specializing in the field. Descriptions of pathology and anatomy and reference to physiology are included for most subjects or diseases presented. The text is not designed for a superficial reader but should well satisfy those seriously interested in broadening their knowledge of the field of surgery.

Nervous and Neurohumoral Regulation of Intestinal Motility. By W. B. Youmans, Professor of Physiology, University of Oregon Medical School, Portland, Ore. Cloth. $4.75. Pp. 120, with 32 illustrations. Interscience Publishers, Inc., 215 4th Ave., New York 3; 2a Southampton Row, London, W.C. 1, 1949.

This book, which is apparently the first of a series of monographs in the physiologic sciences edited by Visscher, Bronk, Landis and Ivy, deals with nervous and humoral factors involved in the regulation of gastrointestinal activity. The methodologic foundations of this research are described well. However, the results of stimulation of afferent and efferent nerves as well as the action of neurohumors such as acetylcholine and epinephrine are discussed rather sketchily. The literature is not adequately considered to make this monograph valuable as a source book. Each of the numerous brief chapters is provided with a list of references, but no papers after 1946 are listed.

The Development of Gynaecological Surgery and Intruments. A Comprehensive Review of the Evolution of Surgery and Surgical Instruments for the Treatment of Female Diseases from the Hippocratic Age to the Antiseptic Period. By James V. Ricci, M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College, New York. Cloth. $12. Pp. 594, with illustrations. The Blakiston Company (Division of Doubleday & Company, Inc.), 1012 Walnut St., Philadelphia 5, 1949.

This book is truly a masterpiece, and Ricci has again distinguished himself as an authority on the history of gynecology though he modestly claims to be not a medical historian but merely a clinician with a reverence for the past.

It is well occasionally to have such a work as this, or in the rush of modern practice of medicine sight of the past may be lost, medicine itself and specialties result from steady but gradual evolution, not over years but over centuries.

From Ricci's vast accumulation of historical data, one learns of the working of iron, the tempering of steel, the use of copper and bronze which preceded the working of these metals into tools, weapons and surgical instruments. One learns that the earliest surgical instruments probably were those made by the ancient Hindu surgeons and that those of the Hippocrateans and in fact even some modern instruments were only slight modifications of the Hindu instruments of antiquity. Even what is probably a vaginal speculum is one of these, and Hippocrates was undoubtedly familiar with a valvular, two-bladed rectal speculum. Excellent photographs of a trivalve and a bivalve vaginal speculum as well as many instruments found at Pompeii are shown. The book contains a profusion of well chosen illustrations.

From his discussion of early instruments, the author continues with his exhaustive search of the literature on such subjects as the study of female anatomy and its gradual clarification, the diagnosis of gynecologic ailments and their treatment.

The account of the diagnosis and digital removal of an hydatidiform mole by Paul Portal in 1685 is a fascinating example (page 102). Ricci's recounting of early cesarean sections is equally interesting.

His text marches on through the earlier years to the nineteenth century. Nothing of the sort would be complete without the story of Ephraim McDowell, the first to remove successfully an ovarian cyst. His description of his operation (1817) is quoted. Nathan Smith's similar achievement in 1821 is likewise described.

Ricci's bibliography is notable, much of it being original quotations in Latin, Greek, German, French or English. Ricci's own fluent knowledge of Latin and Greek in particular is undoubtedly a major factor in making this book possible. There are few others who could undertake such a task.

No medical library can afford to be without this work. As a reference it will be invaluable to any teaching institution, and clinicians will find this scholarly book delightfully interesting reading.

Your Nasal Sinuses and Their Disorders. By Albert P. Seltzer, M.D., M.Sc., Sc.D., Assistant Professor in Otolaryngology, Graduate School of Medicine, University of Pennsylvania, Philadelphia. Cloth. $2.50. Pp. 135, with 24 illustrations. Froben Press, Inc., 1776 Broadway, New York 19, 1949.

One of the problems encountered by the physician who writes for the layman is that of determining how much or how little medical information he should impart. A text can be either too scientific or oversimplified; unfortunately, not all physician-writers are capable of steering a happy, in-between course.

In this small volume the author does a reasonably satisfactory job of acquainting the lay reader with nasal sinuses and their disorders. The evolution of the nose and the sinuses comprises an especially interesting section of the book. However, his omissions are disturbing. One searches in vain for a discussion of both the medical and surgical treatments of sinus disease, topics of universal interest to sinusitis victims. The highly important subject of self medication is summarized in a brief paragraph. There are two controversial statements which do not appear to rest on well documented evidence, namely, that "the most common single complaint suggesting sinus trouble is probably headache" and "tobacco causes atrophic changes in the mucous membranes of the nose."

Queries and Minor Notes

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically stated in the reply. Anonymous communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

PHYSICAL ALLERGY

To the Editor—I am a physician aged 34, weight 180 pounds (82 kg.), height 5 feet 10 inches (178 cm.) and in good general health. Five years ago, while stationed in Florida with the Army, I began to experience pruritus after a bath in hot, cold or tepid water. The head, arms and feet are not involved. The pruritus is fairly severe, lasting 30 to 60 minutes. At first it was limited to the after bath period, but it is now more frequent and occurs in any damp humid weather, becoming more severe with increasing activity. During the winter it is mostly present after bathing. There is no dermatitis or urticaria at any time. Factors causing itch in order of severity are (1) shower, (2) bath, (3) hot humid weather, (4) rough towels or clothing and (5) undressing. Cotton clothing is more tolerable than wool or no clothing. After strenuous exercise, to the point where my capillaries are fully dilated, perspiration is profuse and the body is flushed, I can take an ordinary shower without any itch resulting. While I am exercising to this extent, my skin does go through the usual stages of pruritus, which disappears after a shower. I feel that my condition is a peripheral vascular disorder rather than allergic. It seems that any environment causing my peripheral capillaries to dilate or constrict sets up the itch reflex.

M.D., New Jersey.

This inquiry was referred to two authorities, whose respective replies follow.—Editor.

Answer.—Despite the absence of a rash or urticaria, the condition described is clearly one of an increased response to thermal and probably mechanical stimuli. Usually described as cold or heat allergy, it lacks one of the outstanding requisites for allergy, evidence for an antigen antibody reaction. The prevailing concept for this phenomenon implies a release of histamine from the cells by a mild stimulus, in this case mainly heat. Usually there is sufficient histamine to produce increased capillary permeability and consequent urticarial lesions. In this case apparently the amount of histamine is not sufficient for this purpose but is adequate for irritation of cutaneous nerve endings. Virtually all conditions described here are those which produce temperature changes in the skin. Mechanical stimuli apparently also are able to produce itching; for this reason, wool, which consists of rough laminated hairs, is more irritating than cotton. Strenuous exercise, by producing increased vasodilatation and circulatory flow, may be responsible for more efficient diffusion of the histamine away from the skin.

In most instances of this type the antihistamine drugs are useful. However, one could not expect to obtain results from such medication in this case unless the drug were used about one hour prior to the exposure or unless it were given several times daily. The most likely procedure which might yield results is a systematic exposure to heat and cold. This tends to condition the tissues or blood vessels toward histamine activity. The fact that the parts most exposed to temperature change (head, feet, arms) are not affected leads one to surmise that these parts may have acquired such a resistant state by constant exposure and gives further encouragement with respect to the possibilities of cold and heat treatments. Various technics can be used for this treatment (Feinberg, S. M.: Allergy in Practice, Chicago, Year Book Publishers, ed. 2, pp. 381-389). In this case, it will probably be necessary to give general exposures to heat and cold. One method would consist of exposure to a hot shower, followed by an ice rub, twice daily. Another method would utilize a heat lamp (infrared) for the heat source. Still another method would employ daily baths the temperature of which is increased every day. This is followed each time by exposure to cold (water or ice rub).

Answer.—The syndrome described represents a type of response about which relatively little is known. It appears to belong to the general category of response to physical agents. The more specific responses to cold, heat and mild trauma are well recognized and have been loosely spoken of as cold allergy or heat allergy, but there is strong evidence that these are not true allergies and should be known as hyperreactions or hypersensitivity. It is believed that one of the essential steps in these reactions is the release of histamine locally and also into the general system, yet desensitization by histamine and the use of antihistaminic drugs is frequently without appreciable value. If desensitization is continued for a year or more, improvement has been noted, but this may have been coincidental. It appears that the syndrome described is on the basis of a response to a variety of physical agents, heat, cold and other external irritants, such as wool applied to the skin. The complete mechanism is extremely complex and not fully understood. The following treatment is recommended:

1. Continued desensitization with histamine for at least one year by means of weekly subcutaneous injections beginning with 0.1 cc. of 1:1,000 solutions and increasing up to 1 cc. or to the upper limit of tolerance for the patient as determined by reactions of flushing sensations or heat and other untoward effects. The dosage should then be continued at approximately that level. 2. Avoidance of the use of soap for bathing purposes. 3. Avoidance of the use of wool next to the skin. 4. Avoidance of exposure to extreme heat or cold, whether it be water, air or food. 5. Careful evaluation of possible emotional conflicts and the psychosomatic aspects of this problem.

CERVICAL CARCINOMA

To the Editor—What are the current trends in the treatment of carcinoma in situ of the uterine cervix?

David C. James, M.D., Phoenix, Ariz.

Answer.—Work on this problem is in an experimental state. Carcinoma in situ of the uterine cervix theoretically can be cured by removal of the local lesion. No doubt some have been or could be removed with cautery. A difference of opinion arises over the diagnosis of intraepithelial carcinoma or carcinoma in situ, some believe that invasion is necessary for a diagnosis of carcinoma. Obviously some criteria must be established on which most workers will agree. Some workers now speak of basal cell hyperplasia, intraepithelial carcinoma and invasive carcinoma. One cannot be sure until after removal of the entire cervix and serial section that the lesion is on the surface, because it may invade beyond the site of biopsy. If these lesions are removed surgically, they should be studied with many sections to ascertain that invasion has not occurred: if invasion has occurred, cure will not follow.

Removal of the cervix or conization is a half way measure that leaves many women unfit for pregnancy; therefore tubal ligation probably also should be done. Thus one must conclude that complete abdominal hysterectomy probably is the treatment of choice with or without removal of the adnexa. Subsequent sections of the cervix will indicate whether sterilization by irradiation should follow; a young woman is less of a pelvic cripple if the adnexa are left intact.

One who attempts this new field should either be thoroughly acquainted with pathologic technics and diagnosis or have a pathologist who sees eye to eye with him, because if the pathologist will not call a lesion cancer then he will not agree that one has cured cancer or lessened the incidence of invasive cancer. Until more is known about the entire subject and unless one has the benefit of excellent pathologic facilities, the treatment of choice of any carcinoma of the cervix still is radium followed by roentgen irradiation.

SEDIMENTATION RATES IN CHILDREN

To the Editor—What conditions in children, other than acute rheumatic fever and acute nephritis, are associated with rapid sedimentation rates? What is the normal range for sedimentation rate in children (Rourke Ernstene, Wintrobe Landsberg, Westergren, Linzenmeier and Cutler)?

Emanuel Goldberger, M.D., New York.

Answer.—The conditions in children, other than acute rheumatic fever and acute nephritis, that are associated with a rapid sedimentation rate would be about the same as those observed in adults. In general, an increase in sedimentation rate occurs with most pyogenic infections but may be absent with many virus infections and with certain of the contagious diseases of childhood. In trauma such as fractures and uncomplicated uninfected operations there will usually be a progressive rise and then fall in the sedimentation rate. Malignant tumors, leukemia or lymphoma may be associated with increased sedimentation rate, especially when metastatic or associated with the necrosis of tissue. In nephrosis associated with increase in serum cholesterol there is an increase in the sedimentation rate. Also in liver disease there may be an increase in the sedimentation rate due to an increase in plasma fibrinogen. In chronic liver disease there may be an increase in serum globulin with an elevated sedimentation rate. In general, tissue injury is followed by an increase in plasma fibrinogen that is reflected in the increased sedimentation rate.

For the Rourke-Ernstene method the normal range is 0.05 to 0.50 mm. per minute. For the Wintrobe-Landsberg method an important revision has been made in the method of correction of the sedimentation rate by the hematocrit This is described in Wintrobe's (M M) Clinical Hematology (ed 2, Lea & Febiger, 1946, p 332) In this revision, the sedimentation rate of all blood samples is corrected to a hematocrit of 47 per cent, giving a single normal standard for adults and children of from 0 to 6 mm in one hour An important addition to the correction method has been reported by Whitby and Britton (Disorders of the Blood, ed 5, Philadelphia, Blakiston Company, 1946, p 606) These authors have studied the observed sedimentation rate by the Wintrobe-Landsberg method as it occurred in blood samples with varying degrees of increase in sedimentation rate, the only variable that they introduced was a change in the hematocrit From this study they have produced a satisfactory correction chart, which is clearer and more usable than the original method

For the Westergren method, there is no reported change, the normal range being about 1 to 10 mm in one hour The reader is cautioned to use the Westergren original method, which employs a concentration of sodium citrate solution 3 8 Gm per hundred cubic centimeters of distilled water, 0 2 cc of the anticoagulant is mixed with 0 8 cc of blood The use of other anticoagulants, such as dry ammonium and potassium oxalate mixture, will give more rapid results There is no known change in the values employing the Linzenmeier and Cutler methods

ASSESSMENT OF THE PERSONALITY STRUCTURE

To the Editor —What is the clinical value of the Rorschach test? Is it a test to be used only when the specialist is in doubt whether the patient has a severe neurosis or a beginning breakdown, or is the test also of value when performed at the request of a corporation or society on a person who feels completely healthy, who is working without difficulty and who has not been considered as abnormal? *M D, Tennessee*

ANSWER —The Rorschach test is one of a number of psychologic tests which have been found to have special value in the assessment of the personality structure in the normal as well as the pathologic range The relative objectivity of psychologic tests makes the results valuable in supplementing impressions and judgments gained through such objective technics as interviewing Furthermore, the results give a cross-sectional, current evaluation of the personality resources and limitations which makes an excellent supplement to the type of information gained through the history of the person Because the material obtained through the use of projective technics such as the Rorschach test is not as subject to the conscious control of the subject as material obtained through direct questioning, occasional personality difficulties not yet apparent clinically may be unearthed These values hold equally well for professional and for other groups

The increasing use of psychologic tests, including the Rorschach, by the armed forces and by industry attests to the practical nature of their contribution Several schools of psychotherapy, where applicants for admission to the school are carefully interviewed by psychiatrists, and where detailed histories are obtained, have found the use of projective technics valuable for the reasons previously noted in aiding the selection of the most desirable types of personality for the particular demands of this specific vocation However, all psychometric tests are useful only when taken in conjunction with adequate clinical evaluation

LOCATING LARVAE IN THE SKIN

To the Editor What is the technic for using cedarwood oil to locate the larvae of Ancylostoma braziliense in living skin in cases of larva migrans? The procedure is mentioned but not described in *Manson's Tropical Diseases* *M D, Florida*

ANSWER —The following technic is given by H H Bayley (*Tr Roy Soc Trop Med & Hyg* 34 399-400, 1941) for larva migrans produced by fly and hookworm larvae After the skin is thoroughly dried and cleaned with alcohol, cedar-wood oil is used to clear the area It can then be examined with a dissecting microscope or a good hand lens The ends of the burrow are carefully examined for the larva, which appears as a white spheric mass due to the presence of surrounding plasma After the position of the larva is noted the skin is cleaned for surgical operation and 2 minims (0 12 cc) of a 1 1,000 solution of procaine hydrochloride is used to anesthetize a ½ inch (1 27 cm) area surrounding the larva A cautery is applied until a small burn is produced Bayley prescribed sulfanilamide 7½ grains (0 5 Gm) for two days and stated that it helps the burrows to heal, as they are obviously contaminated with bacteria Much of the itching is due to this secondary infection

TOXICITY OF COTTON SPRAY

To the Editor —A young white man was first seen on July 31 with fever abdominal cramps, profuse diarrhea, headache, extreme weakness and faintness on exertion The fever and diarrhea subsided in three days, but he continued to complain of extreme weakness, vertigo and burning in the epigastrium Treatment consisted of two injections of repository penicillin and cremosuxidine® (succinylsulfathiazole preparation) in ordinary dosage for four or five days He had worked during the previous three weeks at an experimental station and had used many different varieties of chemicals for spraying cotton, but chiefly calcium arsenate and a new one called toxaphene He did not use a mask as instructed He had noticed, for about two weeks before he became ill, some degree of nausea, weakness and burning in the epigastrium (particularly after working with the calcium arsenate) Physical examination did not reveal anything significant except pronounced pallor of the conjunctiva Examination of the blood showed 2,310,000 red blood cells per cubic centimeter, 9 Gm hemoglobin and 4,800 white blood cells, with a normal differential count A sample of blood was sent to a pathologist, who expressed the opinion that the patient had aplastic anemia The patient had been treated with two transfusions of citrated blood, daily liver injections, multivitamins, folic acid and iron and appears to be making a satisfactory recovery Is the calcium arsenate the likely offending agent? In the treatment of this type of anemia, after this period of time, are the red cell count and hemoglobin level, once they are increased to normal, likely to stay normal or would there be a tendency for anemia to recur, even though the offending agent is avoided in the future? How long should periodic examination of the blood be done? John H Graves, M D, Leland, Miss

ANSWER —With the exception of calcium arsenate and toxaphene, other chemicals are not identified and no reference is made to the vehicle in which these insecticides may have been suspended or dissolved Consequently, this reply is directed to calcium arsenate and toxaphene, but the possibility of damage from others should not be ignored Toxaphene is a chlorinated terpene with the empiric formula $C_{10}H_{10}Cl_8$ At times, toxaphene is dissolved in kerosene which is not innocuous In dogs toxaphene has proved to be highly toxic Deaths have resulted from oral doses as low as 15 mg per kilogram of body weight Similar work has indicated some damage following skin absorption It also has been established that storage of this insecticide or some derivative occurs The liver and kidneys were most damaged From animal experiments it is not known that the cellular elements of the blood are damaged, which, in the present situation, may be of importance since anemia and leukopenia are reported in this query

Possibly more consideration may be given to the calcium arsenate, which could account for the manifestations indicated, but the picture is not typical of arsenic poisoning The case against arsenic would be strengthened if there had occurred skin involvement, coryzal manifestations, neuritis, loss of hair and damage to the nails The clinical description resembles more closely the condition produced by benzene or some similar chemical substance Somewhat characteristically, benzene poisoning leads to anemia and leukopenia, but frequently it is accompanied with superficial hemorrhage The following items are suggested for further exploration

1 Rule out a primary anemia unrelated to work causes

2 Procure properly made chemical analyses of hair for arsenic Normal hair may contain arsenic in the order of 0 2 mg per hundred grams of hair In arsenic poisoning, ten times this quantity, more or less, may be detected It is necessary to determine that an arsenic-containing hair "tonic" was not used Arsenic in the hair may persist for six or eight months after initial exposure

3 Make further inquiry as to other substances to which exposure may have been provided, such as benzene, but it does not necessarily follow that such a substance as benzene hexachloride (666), however toxic, would have produced the state described

4 Because of the season, it is unlikely that similar exposure may arise until spring Even so, because of so many present uncertainties and because of demonstrated susceptibility, further exposure should be avoided, especially in the absence of protection

Recovery appears to be complete, but if pernicious anemia is the cause, this might represent only a remission If arsenic is found to be the cause, further damage or sequelae need not be expected If benzene or any substance capable of producing benzene-like blood damage is responsible, which could lead to an aplastic anemia, the present apparent recovery may persist, but there would be a possibility of further anemia after the cessation of treatment From the information furnished it is difficult to suggest further treatment Depending on what other etiologic factors and clinical evidences are encountered, additional blood examinations should be made at intervals of one or two months, certainly not longer than six months

SLOUGH FOLLOWING CALCIUM LEVULINATE INTRA MUSCULARLY

To the Editor —The only time I have used calcium levulinate was many years ago when the contents of a 10 cc ampul were given into the quadriceps extensor muscle of the thigh in a newborn infant who had tetany A large slough resulted Is this a common result of intramuscular injection of this undiluted material? If dilution is necessary what is the smallest proportion of diluent which must be used to insure against slough?
M D California

Answer —Although the concentration of the solution of calcium levulinate is not indicated, it is probable that a 10 per cent solution was used since that is the concentration most frequently marketed Search of the literature has not disclosed any reports of abscess or slough following intramuscular use of calcium levulinate, but such reactions have been reported after the use of calcium gluconate in infants (Lamm, S S *J A M A* 129 347 [Sept 29] 1945)

New and Nonofficial Remedies 1949, page 419 contains the following statement in the monograph on Calcium Compounds

> The gluconate and levulinate salts containing 9 and 13 per cent calcium respectively are relatively nonirritating for subcutaneous or intramuscular injection Muscle necrosis however has followed such administration in children so that the injection of calcium compounds into the tissues should be restricted to adults

The United States Dispensatory, 1947, states

> The Food and Drug Administration (*Trade Corres* 7 A March 12 1946) has proposed that labels of calcium preparations intended for parenteral use bear a warning that the article should not be injected intramuscularly in infants and young children

The report of Bakwin (Tetany in Newborn Infants *J Pediat* 14 1, 1939) states

> When a quick result seems desirable calcium should be given intravenously preferably as the gluconate Intramuscular injection is inadvisable since calcification of the subcutaneous tissues with abscess formation is a not infrequent occurernce

Kendig (Tetany in the Newborn Infant, *J Pediat* 21 510 1942) states that "If the convulsions are severe or continuous calcium gluconate (5 to 10 cc of a 10 per cent solution) should be given intravenously If the symptoms are less severe, a satisfactory result may be obtained by oral administration' This author states that Intramuscular administration of calcium to newborn infants should be avoided, since abscess formation not infrequently follows"

It might also be mentioned that early in 1946 the Food and Drug Administration issued an announcement to manufacturers of calcium gluconate solutions intended for parenteral injection advising them that the labeling should bear a warning against intramuscular injection in children because of muscle necrosis that has followed this mode of injection It appears unlikely that the levulinate salt is less hazardous from this standpoint, and most such solutions which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association do bear such a warning in the labeling

PERIODICALLY PAINFUL BREASTS

To the Editor —A patient age 35 had a hysterectomy and oophorectomy about five years ago leaving one ovary She has had no hot flashes or symptoms of menopause Periodically at what would be her menstrual period she has severe congestive and painful enlargement of both breasts which lasts about one week I have tried surgical supports injections of both estrogenic material and progestrone with no success At present I am trying large doses of testosterone propionate Have you any suggestions? This patient has been seen by consultants in Indianapolis and gynecologists in Chicago without any relief
M D Indiana

Answer —In most cases like this one small doses of testosterone propionate give considerable relief The patient should take a 10 mg tablet of methyl testosterone by mouth daily for each of the ten days before the onset of "what would be her menstrual period.' This therapy may have to be repeated every month for several months but there is no harm in it. When these breast enlargements are associated with other signs and symptoms of premenstrual tension and sometimes even when they are not ammonium chloride may be of great help The patient should take 15 mg of ammonium chloride three times a day during each of the fourteen days before the onset of the symptoms of the menstrual period During these fourteen days, table salt should be eliminated from the diet Chorionic gonadotropin is not indicated in this type of patient It is assumed that the remaining ovary is normal as far as can be determined by bimanual examination

SCHISTOSOMIASIS

To the Editor —Is a diagnosis of schistosomiasis probable in the following case and if so what is the treatment of choice? A 37 year old white man in 1944 in Lisbon Portugal had diarrhea and nausea followed by an infection of the respiratory tract associated with nonproductive cough and fever Complete recovery apparently was made in about three weeks In January 1945 he had almost identical symptoms requiring about one month for recovery In September 1945 he experienced sudden severe epigastric pain which was relieved by intravenous administration of atropine This was the first of a series of episodes of severe pain which recurred at irregular intervals In December 1945 a moderately severe intermittent type of pain developed in the left lower abdominal quadrant for which he was examined at an Army hospital in Frankfurt Germany Sigmoidoscopy revealed shallow ulceration in the rectal mucosa resembling that seen in amebiasis Ova were not found and there was no eosinophilia at that time The mucosa returned to normal within twelve days without specific therapy He felt well for six months except for occasional cramp like pain in the lower part of the abdomen In 1946 he was examined in an Army hospital in Berlin Germany and a diagnosis of functional disorder was made He returned to the United States in 1946 and consulted me Roentgenographic examination suggested duodenal ulcer In October 1947 bleeding of the intestinal tract began Repeat roentgenographic studies seemed to confirm the diagnosis of duodenal ulcer and after consultations a gastrectomy was performed No ulcer was seen in the removed specimen which contained the first portion of the duodenum The bleeding ceased immediately after operation and the patient appeared to be well except for a loss of 30 pounds (14 Kg) In May 1949 after severe epigastric pain the stool again became tarry The patient was admitted to a hospital Results of all tests of hepatic function were normal Pain at the tip of the penis was experienced after urination for a period of five days His abdomen was explored by operation and the gastrointestinal tract was found to be normal with the exception of the gallbladder and the common bile duct which were distended with blood The gallbladder was removed The common bile duct was opened and blood was seen emerging from both hepatic ducts Bleeding ceased after the operation and the patient made a good recovery In August 1949 signs and symptoms of pneumonia of the lower lobe of the right lung developed which responded to penicillin and aureomycin therapy After this he again suffered epigastric pain associated with tarry stools The patient had had a teratoma of the testis (Friedman reaction negative) in 1931 for which he was given irradiation therapy and an appendectomy in 1936 The patient admits swimming in the Mediterranean on numerous occasions at Estoril and Arrabida (near Lisbon Portugal) and once at Sitges (near Barcelona Spain) Is one justified in treating the patient for schistosomiasis without first making a definite diagnosis?
Nyer Goldschmidt M D New Britain Conn

Answer —The clinical picture although not typical is sufficient to suggest schistosomiasis From the geomedical viewpoint the Schistosoma haematobium but not Schistosoma mansoni or Schistosoma japonicum, might be suspected if the patient had gone swimming in any one of the three reported areas of infection in Algarve Province in South Portugal These areas are reported to be at Alportel, Estoi and Taviro recently considered by some workers as doubtfully endemic Investigations have not shown that the places referred to near Lisbon and Barcelona are sources of infection Living in certain areas in the Far East Africa or Latin America might support the suspicion of schistosome infection S haematobium predilection for the urinary bladder would call for thorough cystoscopic examination The tentative diagnosis of schistosomiasis without detection of ova should be confirmed by intradermal and complement fixation tests before treatment Cercarial antigen is reported to produce better intradermal results than adult antigen Treatment without a definite diagnosis should be the last resort

Evidence of hepatic disease requires special precaution in the use of antimony compounds There is the danger of toxic nephrosis even in the use of stibophen which is less toxic but less efficacious than potassium or sodium antimony tartrate Antimony lithium thiomalate is reported to be intermediate in toxicity between antimony potassium tartrate and stibophen Many favorable reports have been written concerning its efficacy and it is preferred by some workers The limit between toxic dose and effective therapeutic dose is narrow

SCABIES AFFECTING EYELASHES

To the Editor —A mother stated that the eyelids of her son aged 20 months had looked irritated for the past ten days On examination of an eyelash with a magnifying glass and later with the low power field of the microscope I found several typical female Sarcoptes scabiei Search in his hair and of the skin of his entire body revealed no evidence of dermatoses Have similar cases of such localization of this disease been reported? I have prescribed 0 5 per cent ophthalmic zinc sulfate ointment
Peter J Kitzherger Jr M D New Ulm Minn

Answer.—Cases of scabies affecting eyelashes apparently have not been reported. Infestation with pediculi is said to occur on rare occasions and in such cases yellow mercuric oxide ointment is used or even plain petrolatum may be used to dislodge or sufiocate the organisms

GROUP AB INDIVIDUALS AS UNIVERSAL RECIPIENTS

To the Editor —We have set up a blood bank at this hospital Is it permissible to give an AB recipient blood from an A, B or O donor, provided the major side of the cross matching is compatible? This question has arisen because we have not had AB donor blood available at all times

M D , Illinois

ANSWER —In general it is best that each patient be given only blood of his own blood group In emergencies, however, it is permissible to give to group AB recipients blood from group O, group A and group B donors provided the major side of the cross matching is compatible Situations also arise wherein a group AB Rh-negative recipient has been sensitized to the Rh factor, and no group AB Rh-negative blood is available, in such cases Rh-negative blood of group A, group B or group O may be used The precaution should be taken to titrate the isoantibodies in the donor's plasma and to reject the donors with a high titer in order to avoid hemolysis of the recipient's own cells If there is not sufficient time for a titration, it is permissible to add A and B group substances to the donor's blood instead

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PSYCHOLOGIC DEVELOPMENT OF THE CHILD

To the Editor —A normal husband and wife have two normal children aged 3 and 6 years They are anxious to have a third child, but since the mother of the husband had a recent psychosis, for which electric shock treatment was effectively used, and the mother had an aged uncle who died in a mental institution they are concerned about the possibility of having a psychotic child What would be the risk? M D , Pennsylvania

ANSWER —What is a normal husband or normal wife? Maybe the mother of the husband was a normal woman until a psychosis developed Who can tell to what the psychosis was due? It may have been one of the so-called involutional psychoses, which unquestionably have some relation to the endocrine system Of what did the aged uncle die in a mental institution? Maybe his mental state was based on deterioration due to arteriosclerosis or some other abnormality in the brain, which often occurs as one grows older On the basis of this family history it is difficult to say whether or not the third child is likely to inherit a defective mental state, they have already risked having two, they should have the third if they wish it, but should pay attention to the development of the child psychologically Environment often is the factor that has to do with the emotional state of the offspring

ARSENIC TRIOXIDE IN DRINKING WATER

To the Editor —The water supply here has been found to contain 0 02 parts per million of arsenic trioxide (as As_2O_3) Is this water safe for drinking purposes? L V Mason, M D , Bridge River, British Columbia

ANSWER —Although the problem of arsenic contamination of drinking water has not arisen in the United States, this possibility has been recognized by the fact that standards for drinking water were promulgated by the United States Public Health Service (*Pub Health Rep* **61** 371, 1946) The item relating specifically to arsenic states that the presence of arsenic in excess of 0 05 parts per million would constitute grounds for rejection of the supply In view of the fact that the international standard limits arsenic oxide in foods to 1 4 parts per million, and the Royal Commission of Great Britain places the limit in liquid foods at 0 14 parts per million, there is no reason to be concerned over the public health hazard of drinking water containing 0 02 parts per million of arsenic trioxide

METHISCHOL AND CORONARY DISEASE

To the Editor —What is the consensus on the use of methischol® in patients with previous coronary disease who show a high cholesterol blood level?

A E Powell, M D , Madison, Va

ANSWER —Methischol® is said to be marketed in the form of capsules or as a syrup Three capsules or 1 tablespoon of the syrup is reported to contain *dl*-methionine, 333 mg , choline, 250 mg , inositol, 166 mg , and the vitamin B complex from 12 Gm of liver There is no satisfactory evidence that any of these substances singly or in combination will provide a significant alteration in the cholesterol content of the blood There are no satisfactory controlled observations which demonstrate beyond doubt that the use of this or similar preparations favorably affect coronary heart disease Some reports to this effect have appeared in the literature, but the work has been poorly controlled and the precise etiologic factor of the coronary disease in the patients studied was not determined, hence, the role that cholesterol deposition played in the disease remains undetermined It must be remembered that most diets provide amounts of methionine and choline far in excess of the quantities provided by a preparation such as methischol®

PHLYCTENULAR KERATOCONJUNCTIVITIS

To the Editor —A patient, twenty-two years old, has had phlyctenular keratoconjunctivitis for twenty years Menstruation began at the age of 11, at which time the conjunctivitis became worse It is worse in the summer and better in winter months She did not have it when she was pregnant, although she was pregnant during summer months Chloramphenicol therapy does not help Would diethylstilbestrol be of value?

Noble H Price, M D , Lamesa, Texas

ANSWER —Phlyctenular keratoconjunctivitis represents a reaction of hypersensitive corneal and conjunctival epithelium to protein, usually the tuberculoprotein General measures are important in the treatment of the condition Cleanliness, a high vitamin and low carbohydrate diet, abundance of fresh air day and night and elimination of infective foci are indicated Occasionally desensitization to the tuberculoprotein in sensitive persons is valuable The value of hormone treatment is questionable

PROLONGED ACTION OF PROCAINE PENICILLIN

To the Editor —In Queries and Minor Notes in *The Journal* January 14, page 143, a statement is made concerning procaine penicillin G in oil containing 2 per cent aluminum monostearate, which may create the impression that the injection of 1 cc of this preparation will invariably give an average serum penicillin concentration of 0 04 units per cubic centimeter at the end of ninety-six hours Because of apparent discrepancies in the ability of various lots of this preparation to prolong blood concentrations of penicillin we have made an intensive clinical study Certain lots tested in the clinics were found to meet the label claim of demonstrable blood concentrations of penicillin (0 03 unit per cubic centimeter) in the blood of 90 per cent of patients for a period of ninety-six hours or more Other lots of the same manufacturer failed to meet such a claim by a considerable margin We have now completed studies of every manufacturer's preparation and are convinced that it is not possible for any manufacturer to consistently produce a preparation that will give ninety-six hour blood level concentrations of penicillin in 90 per cent of the patients treated

We have therefore notified all manufacturers of this product that in the future no specific statement pertaining to or referring to duration of blood concentrations of penicillin may appear on the label attached to the container We do not object, however, to a statement that it is a product for "prolonged blood levels " We have requested also that the following statement, underlined, should appear immediately after any statement pertaining to blood levels

"Although penicillin in the body may be detected, 'demonstrable blood level' does not necessarily mean that penicillin is present in concentrations which are therapeutically effective Dosage and frequency of administration should be governed by the clinical response of the patient to treatment and the nature of the disease "

Henry Welch, Ph D , Director, Division of Antibiotics
Food and Drug Administration, Washington 25, D C

PENICILLIN STORED IN A PARKED CAR

To the Editor —In Queries and Minor Notes in *The Journal*, January 21, page 218, reference is made to the stability of procaine penicillin in oil The answer given was incorrect The question put to the Editor was "whether procaine penicillin in oil loses its potency when carried in a physician's bag stored in an automobile" where temperatures range from "120 ot 140 F " The answer was in part as follows "Federal Law states that any salt or crystalline penicillin G, prior to certification, shall not show a loss of more than 10 per cent of its original potency when stored " In this answer apparently reference is made to section 146 24 of the penicillin regulations, which refers to the heat stability of crystalline penicillin Please note, however, that the exact wording is as follows "Crystalline penicillin is the heat stable crystalline sodium or potassium salt of one or more kinds of penicillin " No reference is made to procaine penicillin in this monograph

In section 146 44 procaine penicillin is described, and it is not described as a heat stable salt of penicillin As a matter of fact, procaine penicillin is not heat stable, having a critical temperature of about 55 C Since it is a hydrate, it begins to lose water at this temperature and decomposes The lower temperature referred to in the query (120 F [49 C]) would probably not materially affect the potency of procaine penicillin in oil However, if procaine penicillin in oil is left at temperatures of 140 F (60 C) for any extended period of time, certainly some decomposition would take place

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Food and Drug Administration, Washington 25, D C

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TRACHEOBRONCHIAL ASPIRATION WITH A URETHRAL CATHETER

Method of Treatment and Prevention of Asphyxial Hazard in Medical Diseases and Emergencies

LEONARD CARDON M D
Chicago

A frequent but usually unrecognized complication of many of the conditions that the internist and general practitioner meet in their daily practice is obstruction of the airway by accumulating tracheobronchial secretions The resultant asphyxia is the direct but insidious cause of many of the grave symptoms—and many of the deaths—commonly but mistakenly attributed to the underlying disease When such secretions are being retained, their removal is valuable as an adjunct to supportive and specific therapy and often is lifesaving Numerous writers[1] in recent years have discussed obstruction of the tracheobronchial tree as an anesthetic, postoperative, post-traumatic or neonatal problem A few[2] have stressed the importance of prevention and treatment of asphyxia in infectious diseases in which the mechanisms that normally keep the airway cleared are impaired, as in bulbar poliomyelitis, tetanus and whooping cough But the common occurrence of retention of tracheobronchial secretions as a medical problem is not generally recognized

It is my purpose in this paper to show that (1) in a wide variety of medical diseases, asphyxia due to retained tracheobronchial secretions is a complication that arises so frequently, and one that may have such serious consequences if not corrected immediately, that the attending physician himself should be prepared to treat it without delay, (2) in most cases treatment by aspiration of the tracheobronchial tree through a nasally introduced urethral catheter[3] can be undertaken safely and effectively by any internist or general practitioner

The following case histories are summarized to illustrate the value of tracheobronchial aspiration in such common medical diseases as pneumonia acute bronchiolitis superimposed on chronic pulmonary disease acute cerebral damage, chest injury, acute pulmonary edema morphine depression and acute myocardial infarction Other conditions in which this procedure is often a valuable adjuvant of treatment are cerebrovascular accidents, brain tumor, acute head trauma meningitis bulbar and pseudobulbar palsy, myasthenia gravis and other neurologic diseases, barbiturate poisoning, acute alcoholism, diabetic or uremic coma and many other infections, metabolic disturbances and injuries that exhaust the patient and depress cough activity It is of value also to remove aspirated food, liquid or vomitus from the tracheobronchial tree

REPORT OF CASES

CASE 1—L H, a woman aged 50 who had been ill for twelve days with daily high fever and a short hacking cough was hospitalized Feb 26, 1939 She was alternately restless and listless and dyspneic There was dulness throughout the right lung with fine crepitant inspiratory rales Her temperature was 100 5 F, pulse rate 124 and blood pressure 130 systolic and 80 diastolic. Blood culture was positive for pneumococcus type XII Confluent bronchopneumonia was the diagnosis and she was treated with sulfanilamide type XII rabbit serum and nasal oxygen

At 5 a m. March 2 there was a sudden increase in restlessness Her temperature was 98 6 F pulse rate 128 and respiratory rate 44 per minute She was placed in an oxygen tent At 11 a m her condition appeared terminal The sound of the tracheal rales suggested that she was literally drowning in her own secretions A laryngologist was called to aspirate the trachea A tracheal catheter was inserted and a large volume of thick gray mucopurulent blood tinged secretion was aspirated

Response to aspiration was immediate and dramatic The breathing became less labored the tracheal rales disappeared her color improved, and she awakened from the coma and spoke rationally and clearly to her relatives But she was too weak to cough and tracheal rales gradually reappeared dyspnea and cyanosis became progressively worse, and she again sank into coma Aspiration was repeated in one hour with the same decided relief of symptoms She was then maintained in fair condition for several hours, when her condition suddenly became worse It was obvious that endotracheal aspiration was again urgently needed *No one equipped to undertake this was available* The patient died at 4 p m in spite of intracardiac injection of epinephrine.

This case convinced me of several facts 1 The onset of tracheal rales should be regarded as a sign not that death is imminent and inevitable but that accumulated tracheobronchial secretions must be aspirated without delay 2 The internist or general practitioner must be ready to undertake this lifesaving measure without

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From the Northwestern University Medical School the Mount Sinai Hospital and the Cook County Hospital.

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[2] (*a*) Galloway T C Management of Respiratory Complications of Poliomyelitis Arch Otolaryng **46** 125 (Aug) 1947 (*b*) Minnesota Poliomyelitis Research Commission Bulbar Form of Poliomyelitis II Therapeutic Measures Based on Pathologic and Physiologic Findings J A M A **135** 425 (Oct 18) 1947 (*c*) Turner V C and Galloway T C Tetanus Treated as a Respiratory Problem Arch Surg **58** 478 (April) 1949 (*d*) Kohn J L. and Fischer A E Medical Management of Whooping Cough in Infants Postgrad Med **5** 20 (Jan) 1949

[3] (*a*) Haight, C. Intratracheal Suction in the Management of Post operative Pulmonary Complications Ann Surg **107** 218 (Feb) 1938 (*b*) Haight, C. and Ransom H K Observations on the Prevention and Treatment of Postoperative Atelectasis and Bronchopneumonia Ann Surg **114** 243 (Aug) 1941

depending on the assistance of a specialist 3 Death, even in a serious disease, may be caused not by the toxicity of the disease itself but by an incidental complication, the relief of which may give the patient time to recover Even though this patient was in an advanced stage of multilobar pneumonia, it seems likely that she might have recovered if the tracheobronchial tree had been kept clear by repeated aspiration and if at that time penicillin had become available to eradicate the infection

Case 2—J H, a man aged 58, was hospitalized Dec 28, 1942 for acute purulent bronchitis and bronchopneumonia superimposed on chronic asthmatic bronchitis and pulmonary emphysema The acute illness had developed gradually after the onset of a cold six days previously Because of a history of myocardial infarction in the previous year, a diagnosis of recurrent acute myocardial infarction was also entertained and morphine had been given freely

When seen by me at 3 a m the patient was in an oxygen tent and appeared in terminal condition He was comatose, and asphyxia, dyspnea and cyanosis were extreme Diffuse sibilant and sonorous breath sounds and coarse moist rales were audible throughout both lungs A catheter passed by me through the nose slipped with ease into the trachea, and considerable mucopurulent secretion was aspirated through it with an electric suction machine Respirations improved immediately, and cyanosis diminished The patient awoke, recognized his wife and spoke to her

During the next ten days the trachea was aspirated frequently and without difficulty, not only by me but also by the interns, residents and special nurses But in spite of sulfonamide therapy and antipneumococcic serum the patient's condition grew progressively worse, terminating in azotemia, oliguria and drop of blood pressure to shock levels Death occurred Jan 7, 1943

This was my first experience in attempting to insert a urethral catheter into the trachea It was gratifying to find how easily I could do so without injuring the patient Successful repetition of aspiration by the interns, residents and special nurses provided additional proof of the simplicity and safety of this procedure The dramatic improvement that followed aspiration on the first and subsequent occasions confirmed my earlier observations of the immediate lifesaving effect of this form of therapy

Case 3—S K, a man aged 57, was hospitalized by his physician Oct 12, 1945 for severe dyspnea, wheezing and cyanosis of two days' duration following a cold two weeks earlier For three days he was treated intensively but without improvement, for acute left ventricular failure When seen by me (October 15) the patient was acutely ill with decided restlessness and dyspnea His temperature was 100 F, pulse rate 120 and respiratory rate 34 per minute The lungs were hyperresonant, with wheezing and sibilant breath sounds throughout The diagnosis was changed to acute, diffuse, purulent bronchitis superimposed on chronic pulmonary fibrosis, emphysema and possibly bronchiectasis Uncontrolled diabetes mellitus was present Therapy for supposed heart failure was discontinued The patient was placed in an oxygen tent and started on a regimen to control the acute purulent bronchitis and the diabetes

The next day restlessness, dyspnea and cyanosis increased, and moist rales appeared bilaterally as high as the spines of the scapulae A positive pressure mask using 3 cm water expiratory pressure and 95 per cent oxygen was applied The patient appeared exhausted, cough was weak, labored and nonproductive A catheter was inserted blindly through the nose and glottis, and the trachea was aspirated with an electric suction machine Improvement was immediate and pronounced Bronchoscopy was performed the following day by an otolaryngologist, with aspiration of mucopurulent secretion from both main bronchi Again there was an immediate improvement in the patient's condition With periodic aspiration of the trachea by catheter as necessary, the patient continued to do well and in a few days was sufficiently improved to permit substitution of the oxygen tent for the mask. He was removed from the oxygen tent October 21 and was discharged ten days later

The disease in this case, first diagnosed and treated as acute left ventricular failure, proved to be a typical case of an acute respiratory emergency precipitated by an episode of acute bronchitis engrafted on chronic pulmonary disease This syndrome and its recommended treatment are described elsewhere in greater detail[4] Repeated aspiration of the tracheobronchial tree by catheter and suction machine was a deciding factor in this patient's recovery

Case 4—M L, a man aged 63, had suffered with chronic bronchitis and asthma most of his life He was hospitalized July 13, 1946 because of sudden exacerbation of dyspnea and cyanosis the previous day Breathing was shallow with decided activity of the accessory respiratory muscles The temperature was 101 8 F, the pulse rate 110 and the respiratory rate 34 per minute The pupils were dilated Diffuse sibilant and sonorous rales were heard throughout both lungs, with numerous coarse moist rales scattered bilaterally The sputum was grossly purulent Acute suppurative bronchitis, chronic asthmatic bronchitis, pulmonary emphysema and possibly bronchiectasis were diagnosed

Oxygen in high concentration was administered by mask, but breathing became more labored during the first twenty-four hours Muscular twitchings and decided cyanosis were evident when the patient was not receiving oxygen By morning the patient was critically ill, comatose and deeply cyanotic, respirations were shallow, and coarse moist rales were heard in both lungs The pulse rate rose to 120 per minute No improvement was obtained from aminophylline given intravenously or epinephrine given subcutaneously

Emergency bronchoscopic aspiration yielded 150 cc of mucopurulent secretion resembling curdled milk There was an immediate improvement in the patient s condition After several hours, however, he again became restless, dyspneic and cyanotic, with obvious air hunger despite the administration of 100 per cent oxygen by mask A urethral catheter was easily inserted by me through the nose into the trachea, and 150 cc. of similar mucopurulent material was again aspirated. Symptoms and signs were considerably relieved

At midnight the patient became comatose, and corneal reflexes were absent Frequent tracheal aspirations by catheter were done throughout the rest of the night and early morning, but only small amounts of material were now obtained Bronchoscopic aspiration at 10 a m likewise obtained only a little secretion Evidently the large bronchi were now clear, but the smaller bronchi were not being cleared of pus by either method of aspiration

In spite of intensive therapy, coma gradually deepened Respirations became more shallow, the blood pressure dropped, the temperature rose, azotemia developed and the patient died At autopsy the smaller bronchi were filled with pus, but the rest of the tracheobronchial tree was clear

Two observations make this case noteworthy (1) It was possible to obtain by tracheal aspiration per urethral catheter as much secretion as had been obtained the day before by bronchoscopic aspiration (2) Frequent tracheal aspiration was effective in keeping the large bronchi and trachea clear

Case 5—M L, a woman aged 56, was first seen in the evening of Jan 23, 1947 During a bowel resection that morning, while she was under spinal anesthesia, there had been two episodes of complete respiratory paralysis and cardiac arrest when the heart beat, pulse and blood pressure were unobtainable, the first lasting about twenty minutes the second about ten minutes The operation had been completed after resuscitation with artificial respiration (with intratracheal intubation) and subdiaphragmatic massage of the heart

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[4] Cardon, L, Lemberg, L and Greenebaum R S Acute Suppurative Bronchitis and Bronchiolitis in Chronic Pulmonary Diseases Diagnosis and Management, Ann Int Med to be published

The patient was in poor condition when she left the operating room and was still in coma Asphyxial coma with anoxic cerebral damage and spastic paralysis of both lower extremities atelectasis of the right lung and gastric dilatation were diagnosed The prognosis was grave, but it was decided to continue high concentration oxygen by mask with intermittent inhalations of 5 per cent carbon dioxide and to aspirate the bronchi through the intratracheal tube left in place after the operation

By 9 p m the condition appeared more hopeful After the bronchi were aspirated and carbon dioxide was administered for a few seconds the breathing improved considerably and the eyes remained open and visible The spasticity of the legs was observed to be intermittent The intratracheal tube which had remained in place for twelve hours was removed and aspiration by nasal intratracheal catheter was repeated every hour

At 12 30 a m there was a sudden increase in cyanosis The pulse rate was 160 and the respiratory rate 40 per minute The trachea was reintubated with a Magill tube which was then left in place to facilitate aspiration by catheter at frequent intervals during the next few hours after which it was removed At 9 30 a m the pulse rate was 138 respiratory rate 32 per minute, and blood pressure 136 systolic and 80 diastolic In the morning of February 1 the blood pressure dropped to 104 systolic and 60 diastolic but rose to 120 systolic and 80 diastolic after aspiration of the throat and bronchi with a urethral catheter

The patient remained in a comatose condition until February 10 when for the first time there was some intelligence in her expression and she obeyed the command to protrude the tongue There followed a stormy period with episodes of drug rash bronchopneumonia fecal impaction and periodic crises of rigidity twitching flushing and other reactions similar to those occurring in encephalitis Therapy during this period included frequent (several times during each day and night) aspiration of tracheobronchial secretions through a urethral catheter inserted blindly through the nose

On February 28 the patient spoke a few words By March 6 she was alert and speaking in phrases and by March 10 she was sitting up by herself and speaking in intelligible short sentences By April 10 she was able to walk with assistance Improvement in strength and muscular coordination continued, and she remained alert with good memory and clear understanding though her speech deteriorated She was discharged to a convalescent home July 7, 1947

In this case of severe anoxic cerebral damage with prolonged coma and absent cough reflex aspiration of the trachea by means of a urethral catheter inserted blindly through the nose was performed at frequent intervals during a period of three weeks There was no evidence of laryngeal or tracheal trauma The fact that this patient's clinical condition deteriorated to a critical state on several occasions when aspiration was delayed is convincing evidence that frequent aspiration of retained tracheobronchial secretions was a deciding factor in the successful outcome

Case 6—I P a woman aged 51 was hospitalized by her physician March 25 1947 after an automobile accident Her injuries included fractures of the right clavicle and scapula and five ribs When seen by me in consultation the next day she was not acutely ill but was restless and uncomfortable irritated by her inability to clear the bronchi and trachea of accumulating secretions because the broken ribs made coughing painful There was almost constant but shallow and ineffectual clearing cough' in an attempt to raise accumulating secretions Moist gurgling breathing was audible at a distance Numerous moist rales were present throughout the right lung with friction sounds near the costal arch anteriorly Contusion edema and retained bronchial secretions were diagnosed

In this fully conscious patient a urethral catheter was inserted blindly through the nose into the trachea and thick mucopurulent secretion was aspirated The rales and the "clearing cough disappeared The patient was so relieved by this procedure that when seen the following day (when gurgling respirations again were present) she was eagerly awaiting aspiration Aspiration was repeated again the third day but was not necessary subsequently as the pain in the ribs was then sufficiently relieved to permit productive cough Recovery was uneventful

That no serious pulmonary complication developed in this case of severe chest injury can surely be attributed in large part to the effectiveness of tracheal aspiration in preventing bronchial obstruction by accumulating secretions Observation of this conscious patient s reaction to aspiration of accumulating tracheobronchial secretions through a urethral catheter inserted blindly through the nose into the trachea would have convinced the most skeptical that this procedure is simple and safe So great was the relief experienced immediately after clearing the airway that the patient was more than willing to accept the relatively slight discomfort of the insertion of the catheter when accumulating secretions made repetition of the procedure necessary on two subsequent occasions

Case 7—M G., a man aged 69 had suffered for years with a chronic cough and expectoration He was hospitalized on another service May 21 1947 because of dyspnea wheezing gurgling respiration and restlessness He had been digitalized prior to hospitalization At the initial examination he was dyspneic and cyanotic but the jugular veins were not engorged The chest was emphysematous and there were expiratory wheezes and moist rales throughout both lungs

The following day the patient appeared to be in a terminal state he was comatose with black cyanosis and gurgling respirations At this point a medical resident who had assisted me in the management of some of the cases reported above saw the patient noted that there was no objective evidence of heart failure and made the correct diagnosis of obstructive purulent bronchitis He called the medical anesthesiologist who inserted a Magill tube and removed much thick purulent secretion by tracheobronchial aspiration The patient immediately improved and in a few days fully recovered

This patient became moribund when treated for supposed left ventricular failure His immediate improvement and ultimate recovery following a single tracheobronchial aspiration confirmed the accuracy of the diagnosis of obstructive bronchitis This life was saved by the fortuitous visit of a passing physician who recognized the true cause of the patient s coma dyspnea cyanosis and tracheal rales and was familiar with the value of tracheobronchial aspiration in medical emergencies

Case 8—A S, a man aged 69 had an acute infection of the upper respiratory tract. In the evening of the fourth day (Feb 4 1948) there was a sudden onset of severe nonproductive cough dyspnea cyanosis and coma He was hospitalized by his physician and given morphine and atropine When seen by me one half hour later the patient was acutely ill comatose and breathing forcibly and rapidly with coarse audible rhonchi He was decidedly cyanotic and the pupils were moderately constricted Pneumonia of the left lung acute respiratory obstruction by accumulating secretions acute bronchitis and bronchiolitis and pulmonary emphysema were diagnosed

A urethral catheter was passed through the nose into the trachea, and the trachea and bronchi aspirated of bloody mucopurulent secretions In a few minutes the patient awoke He recognized his family and the physician and spoke to them There was pronounced relief of the dyspnea and cyanosis, and the coarse rales and rhonchi disappeared Aspiration was repeated as necessary throughout the day and night Recovery was prolonged but complete

This case is only one of many that could be cited as evidence that in the presence of accumulating tracheobronchial secretions (especially in a patient with pulmonary emphysema) the administration of morphine—which depresses the cough reflex—is hazardous The patient's dramatic return of consciousness as soon as the retained secretions were aspirated is clear evidence that the immediate cause of his comatose state was not the toxicity of the acute pulmonary infection but asphyxia due to obstruction of the airway

CASE 9—J G, a man aged 70, was hospitalized April 17, 1948 for sudden onset that afternoon of massive pulmonary edema with dyspnea and cyanosis, for which he had been given oxygen, morphine and atropine When seen by me that night at 11 o'clock the patient was in deep coma The blood pressure had fallen from 170 systolic and 100 diastolic to 108 systolic and 54 diastolic The pulse rate was 144 The face was cyanotic Respirations were slow (10 per minute), shallow and labored, with periods of apnea The pupils were constricted and fixed The jugular veins were not engorged There were coarse moist rales in both lung fields, with occasional expiratory squeaks The heart was enlarged to the left, of aortic contour, with systolic murmurs at the apex and base Diagnosis included (1) acute pulmonary edema due to acute left ventricular failure, (2) chronic bronchitis and pulmonary emphysema, (3) morphine depression, and (4) retention of tracheobronchial secretions

By repeated aspiration of the tracheobronchial tree per urethral catheter introduced through the nose, 20 cc of mucopurulent secretion were removed Improvement in the patient's condition was immediate and pronounced, though he did not waken (because of the morphine depression) His breathing became regular and deep, the cyanosis diminished, the pulse slowed and the blood pressure rose to 120 systolic and 68 diastolic

At 3 55 the next morning the patient again became more cyanotic, and gurgling respirations were audible at the bedside Tracheal aspiration was repeated by the medical resident, with recovery of a moderate amount of mucus In a few minutes the patient sat up and looked about confusedly Within the next few hours the cough reflex returned, and by the next day the patient was fully conscious and the lung bases clear He was discharged May 3, 1948

In this patient two factors contributed to obtundation of the sensorium and loss of the cough reflex, leading to retention of tracheobronchial secretions (1) asphyxia caused by acute pulmonary edema and (2) morphine narcosis This was a typical case of an elderly patient with pulmonary emphysema who was being treated for sudden acute pulmonary edema The chronic respiratory disease, the anoxia resulting from acute pulmonary edema, and the depression of the sensorium and the obliteration of the cough reflex resulting from the morphine, which is specific in the treatment of acute pulmonary edema, all encouraged accumulation of tracheobronchial secretions The dramatic improvement that followed their removal by tracheobronchial aspiration demonstrates the urgency of mechanical clearing of the airway when retention of tracheobronchial secretions occurs as a complication of acute pulmonary edema and its treatment with morphine The large measure of relief afforded by the removal of a relatively small amount of secretion need not be surprising, since even a small amount of secretion or a mucus plug strategically placed to block the trachea may cause extreme asphyxia

CASE 10—F S, a man aged 71, was admitted to the hospital Sept 2, 1949 with severe precordial pain radiating to the left arm An electrocardiogram revealed an acute posterior myocardial infarction, and the patient was treated with morphine, atropine and nasal oxygen On September 6 he was fortuitously presented to me as "a case of acute coronary occlusion in terminal condition, having frequent attacks of acute pulmonary edema requiring repeated administration of morphine and atropine for their control" The attacks of "acute pulmonary edema" were manifested by periods of wild excitement, orthopnea and air hunger, during which bubbling rales were audible on auscultation over both lungs

The patient was dyspneic, stuporous and unresponsive There was evidence of considerable weight loss The pulse was strong, regular and of normal rate The blood pressure was 156 systolic and 100 diastolic The jugular veins were visible only during expiration The chest was huge and barrel shaped Repirations were not noisy or gurgling, but on auscultation large moist rales were audible diffusely over both lungs

The good pulse and blood pressure, barrel chest, history of repeated administration of morphine and the coarse pulmonary rales suggested that the patient's stupor and attacks of air hunger might be due not to acute pulmonary edema but to retained tracheobronchial secretions producing asphyxia A urethral catheter was easily passed through the nose into the trachea, and large quantities of thick, yellow, mucopurulent secretion aspirated with the electric suction machine The irritation of the catheter also stimulated coughing, which brought up large quantities of secretion outside of the catheter

The patient awakened and spoke rationally Breathing was now slower, free and easy Morphine, other sedatives and atropine were prohibited Stimulated by this demonstration, the resident staff aspirated the trachea periodically throughout the day and following night. He remained conscious and rational and began to take nourishment by mouth As his cough returned and became stronger and more effective aspiration was gradually discontinued A history was now obtained of excessive tobacco smoking, decided chronic bronchitis and expectoration of viscid mucopurulent sputum (brought up with great difficulty after prolonged spasms of coughing) for many years On Sept 10, 1949 he signed a release and left for his home by ambulance

The sequence of events described in this case unfortunately occurs altogether too frequently An elderly man with chronic bronchitis and emphysema is dependent on active coughing to keep his tracheobronchial tree clear of mucopurulent secretion A coronary occlusion and myocardial infarction develops, for which morphine and atropine in liberal doses are administered The morphine depresses the sensorium and abolishes the cough reflex, and the atropine thickens the sputum The mucopurulent secretions accumulate, obstruct the airway and produce asphyxia and stupor Attacks of air hunger and coarse pulmonary rales are mistakenly thought to be manifestations of acute pulmonary edema, which may reasonably be expected to occur in the presence of proved myocardial infarction Morphine and atropine are again given to treat the "acute pulmonary edema," and a vicious circle is established The patient drowns in his own secretions, and the physician salves his conscience with the diagnosis of unavoidable cardiac death due to "acute pulmonary edema" secondary to acute myocardial infarction Moist respirations audible at a distance, and coarse moist rales heard diffusely in both lungs do not invariably indicate acute pulmonary edema Just as frequently they are entirely due to retained mucoid or mucopurulent secretions in the tracheobronchial tree

ENDOTRACHEAL CATHETERIZATION AND SUCTION
A SIMPLE METHOD OF TRACHEOBRONCHIAL ASPIRATION

Mechanical aspiration of the tracheobronchial tree has been regarded as a procedure requiring the skill and experience of a specialist. This is true when insertion of a Magill tube, bronchoscopy or tracheotomy is needed. But in the majority of patients effective aspiration can be accomplished through a catheter passed through the nose and inserted blindly into the trachea. And this simple technic can be mastered quickly by any internist or general practitioner. The only equipment needed—an ordinary urethral catheter and an electric suction machine—is already available to most physicians.

In most patients a urethral catheter can be passed with ease through the nostril into the glottis and trachea. The catheter should be size 16 F or thereabouts; a new one is best, though a used one is acceptable if it is still fairly stiff. Rarely it may be best to cut off the blind tip. The catheter is connected by a glass tube to the long rubber tube leading to the vacuum bottle of an electric suction machine. (Such machines are standard equipment of most hospitals and of the emergency pulmotor squads on call in most cities.) Before the catheter is passed one should test the suction by sucking water from a glass. Moistening the catheter in water provides adequate lubrication without making it too slippery to handle.

Ordinarily no special maneuvers are needed to insert the catheter through the nostril into the trachea; usually the nasopharynx is so shaped that it provides a natural channel that guides the tip of the catheter directly into the glottis after one or several trials. On occasion, however, it may be necessary to dorsiflex the head and neck slightly and/or pull out the tongue. Occasionally a patient is encountered with an anatomic anomaly that makes nasal insertion of a urethral catheter impossible. In such a case a catheter can often be inserted blindly through the mouth. For this purpose a woven silk catheter or a rubber catheter containing a wire stylet is bent to shape and inserted over the tongue exactly in the midline.

The catheter (after nasal or oral insertion) is passed quickly into the trachea at the moment of inspiration when the glottis is open. Entrance of the catheter into the glottis is usually signaled by hollow cough and increase in cyanosis and restlessness, often accompanied with momentary suspension of breathing as the result of glottic spasm. Breathing when resumed is whistling and stridor-like. One can determine whether the catheter has entered the trachea by inserting its outer end in a glass of water and watching for bubbles during expiration. As soon as the catheter is known to be in the trachea it is rapidly inserted as far as possible and suction is applied as the catheter is drawn up and back several times. Except in deeply comatose patients, coughing is usually induced when the catheter touches the carina (bifurcation of the trachea). This coughing during suction is desirable, for it raises retained secretions into the large bronchi and trachea where they can be reached by the catheter.

Although glottic spasm is seldom a serious problem in these respiratory emergencies, it is a wise precaution to complete each aspiration as quickly as possible. If glottic spasm does become so severe that cyanosis is alarming, the catheter should be disconnected from the suction tube while the patient takes several breaths. Or the catheter may have to be removed and the procedure repeated after the patient has quieted down. Anesthetizing the pharynx and glottis locally before attempting aspiration may sometimes be advisable, though care should be exercised to avoid abolishing the cough reflex.

On rare occasions endotracheal catheterization may prove impossible. Then a specialist should be called. He may be able to pass a catheter with the aid of a laryngoscope. Or, if glottic spasm is troublesome, he may pass a stiff Magill tube (which is not compressible by the spastic glottis) through the nose or mouth into the trachea, and then use a urethral catheter passed through this tube for aspiration. If such a patient requires frequent aspirations the Magill tube may be left in place (if the patient is comatose) or a tracheotomy may be performed so that aspiration can be effected as often as needed through a catheter passed into the trachea through the tracheotomy tube.

INDICATIONS

Respiratory obstruction should be considered as a probability whenever the capacity to cough and clear secretions is impaired. This means that the attending physician should be alert to the asphyxial hazard of accumulating tracheobronchial secretions in any medical disease or emergency complicated with any of the following concurrences: (1) chronic pulmonary disease, for in such cases bronchial secretion may be increased and the respiratory mechanism defective; (2) dulling of the sensorium, stupor or coma, for in these circumstances the cough reflex and the ciliary activity are depressed or obliterated; (3) exhaustion or pain that retards the action of the respiratory musculature, for then the tussive squeeze (and the volume of the bechic blast) will be ineffectual; (4) mechanical or chemical irritation of the lungs, pleura, chest wall, abdominal viscera, brain or head, for receptors in these areas initiate vagus reflexes that stimulate bronchosecretion and bronchoconstriction, and (5) anoxia, for anoxia may precipitate respiratory obstruction not only by increasing the permeability of the capillaries of the lungs and thus leading to pulmonary edema but also by depressing the sensorium and weakening the cough reflex and (through vagus reflexes) by promoting copious secretion of mucus in the bronchi and trachea.

To patients requiring aspiration for any of these reasons, endotracheal catheterization and suction is particularly well adapted. In an emergency this is the one method that is immediately available to the internist or general practitioner treating the patient. And, as Haight[3] pointed out, this is the method of choice when aspiration is needed at frequent intervals for a limited time (as it usually is by such patients), because catheterization can be repeated as often as necessary without fear of trauma.

CONTRAINDICATIONS

The following contraindications to endotracheal catheterization by the internist or general practitioner may be encountered but are of rare occurrence and in most cases are relative, depending on the availability of a specialist and the urgency of aspiration. 1. If there is pronounced local disease in the larynx, insertion of a catheter usually should not be attempted except by a specialist. 2. If glottic spasm is alarming bronchoscopy or insertion of a Magill tube is usually necessary. 3. If there is an obstruction or gross purulent infection in the nasal passages (but no such infection in the tracheobronchial tree) the catheter should be inserted through the mouth rather than through the nose, but infection in the area through which the catheter must be passed should not be a contraindication if aspiration is urgently needed, for in such a case chemotherapy will make the possibility of spread of infection relatively unimportant 4 If coughing, straining or struggling is provoked by attempted insertion of the catheter in any condition (as cerebral hemorrhage or subtentorial tumor) in which even momentarily increased intracranial pressure may be fatal, it may be unwise to risk passage of the catheter However, if death by asphyxia seems certain unless the airway is aspirated without delay, to proceed with the catheterization may be well worth this risk 5 If repeated catheter aspirations prove ineffectual, bronchoscopy becomes imperative to aspirate the bronchi more thoroughly under direct vision

CONCLUSION

Recognition of the presence of retained tracheobronchial secretions and institution of appropriate measures to effect their removal without delay should be regarded by the attending physician as his responsibility This is essential for three reasons First, unless the possibility of asphyxia is considered, the patient s symptoms may be inaccurately diagnosed and forms of therapy may be prescribed that not only are ineffective but actually aggravate the condition causing the asphyxia Second, treatment of the underlying disease or a concomitant complication may necessitate measures that materially weaken the patient's natural drainage system, as when morphine is needed for pulmonary edema or pain or when an elderly or debilitated patient must be immobilized in bed, in these circumstances it is imperative that steps be taken to protect the airway until the patient's ability to do so is restored And, third, the internist or general practitioner who accepts this responsibility is in a position to save many patients from death or damage to the central nervous system that would be inevitable if effectual treatment of the asphyxia was delayed until the services of the specialist could be obtained

Asphyxia due to respiratory obstruction by accumulating tracheobronchial secretions should be recognized as a legitimate diagnosis in the international list of causes of death

SUMMARY

Asphyxia by accumulating tracheobronchial secretions is a frequent complication and may cause symptoms and death in many common medical diseases and emergencies (such as pneumonia, myocardial infarction, acute pulmonary edema, acute bronchiolitis superimposed on chronic pulmonary disease, barbiturate and morphine coma, diabetic and uremic coma and cerebrovascular accidents)

Tracheobronchial aspiration is an indispensable procedure for clearing the airway of such secretions

Endotracheal catheterization and suction is described as a simple method of tracheobronchial aspiration that is immediately available to all internists and general practitioners and that can be repeated as often as indicated

No evidence of laryngeal trauma attributable to this procedure has been encountered

Ten cases illustrating the immediate lifesaving effect of this procedure are reported

185 North Wabash Avenue

LIFE SITUATIONS, EMOTIONS AND CHRONIC ULCERATIVE COLITIS

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The relationship between periods of emotional stress and the onset and exacerbation of symptoms in patients with chronic ulcerative colitis has been well established In addition distinct personality features and behavior patterns have been found in these patients[1] Aside from the work of Lium,[2] little experimental work has been done to clarify the physiologic mechanisms through which such a disease process comes about in human beings

A unique opportunity to study the function and behavior of the human colon was presented in 4 fistulous subjects (fig 1) Subject A, who was observed daily for eight weeks, was a man aged 26 who had had ulcerative colitis for six years and had had a large prolapse of ascending colon and cecum through an old cecostomy wound Subject B, studied daily for four weeks, was a plumber aged 54, who had a large prolapse of descending colon and sigmoid through a left colostomy wound Subject C,[3] who was observed twice weekly for eight weeks, was a business man aged 44, who had a small prolapse of cecum through a cecostomy wound Subject D, a broker aged 67, had a large prolapse of transverse colon through a transverse colostomy He was observed daily for two weeks

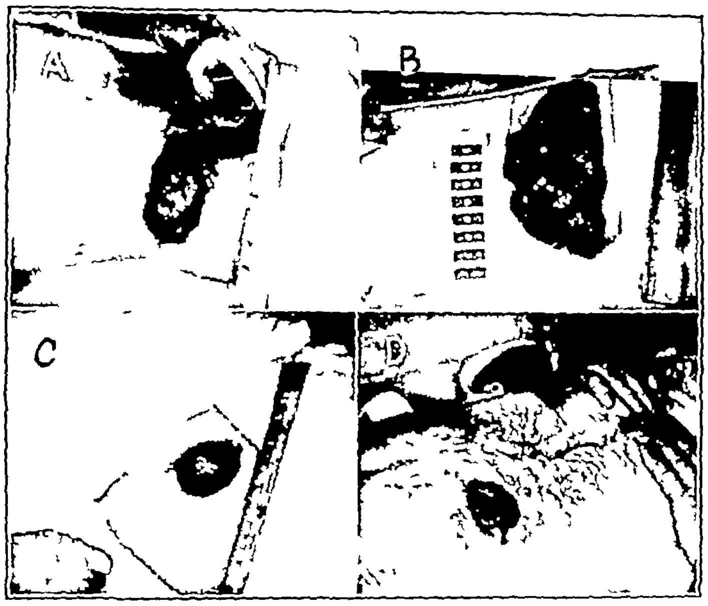

Fig 1 —Photograph showing the location size and shape of the colonic prolapse in 4 fistulous subjects A B C and D

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From the Department of Medicine and Psychiatry of the Cornell University Medical College and the New York Hospital

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[1] Murray C D Psychogenic Factors in the Etiology of Ulcerative Colitis, Am J Digest Dis **180** 239 1930 Daniels G E Psychiatric Aspects of Ulcerative Colitis New England J Med **226** 178, 1942 Wittkower E Ulcerative Colitis Personality Studies, Brit M J **2** 1356 1938 Groen, J Psychogenesis and Psychotherapy of Ulcerative Colitis Psychosom Med **9** 151, 1947

[2] Lium R Etiology of Ulcerative Colitis, Arch Int Med **63** 210 (Feb) 1939 Observations on the Etiology of Ulcerative Colitis Am J M Sc **197** 841, 1939

[3] The observations recorded on subject C were made by one of us (W J G) when he was clinical assistant to the gastrointestinal physiologic research unit of Mount Sinai Hospital, which is under the direction of Drs M Ralph Kaufman, Sydney Margolin, Asher Winkelstein and Franklin Hollander

METHODS

The motor activity of the colon was observed and photographed by still and motion pictures In all subjects colonic intraluminal pressure changes in an inlying inflated balloon were recorded on an ink-writing kymograph When possible simultaneous recordings were made from areas in both the ascending colon and the descending or sigmoid colon

Blood Flow—Color readings were recorded by comparing the color of the mucosa to an appropriately graded color scale standardized according to the method of Munsell[4] That color changes predictably reflect changes in blood flow has been demonstrated by Richards, Wolf and Wolff[5] In general, the redder the membrane, the greater the blood flow

Lysozyme—Lysozyme concentration in the secretion removed directly from the surface of the mucosa was measured by the viscosimetric method of Meyer[6]

Secretion—Secretion was observed to be present on the surface of the colon at all times When it was scant in amount, it was designated as 1 plus When the secretion was so abundant as to actually drip from the surface of the bowel, it was designated as 4 plus Values of 2 and 3 plus were applied to conditions between these extremes

Fragility—The fragility of the mucous membrane, or its reciprocal factor, resistance to injury, was measured by applying negative pressure to the mucosa The instrument consisted of a soft rubber catheter, a mercury manometer and a syringe A known pressure was exerted for an arbitrary number of minutes If this injury did not produce a small petechial lesion then either the pressure or duration of application was varied until a sufficient force was applied to produce such a lesion

Observation—The subjects were customarily observed at the bedside or in the laboratory one and one-half to two hours after the last meal Observations of motility, color and secretion were noted after the patient had been resting comfortably and had been lightly diverted for about thirty minutes Specimens of surface secretion were removed for lysozyme determination, and the fragility was tested Each day a short interview was conducted in order to ascertain the predominant mood and feeling state of the patient and to determine what events of significance had taken place in the patient's life since the last observation

RESULTS

During periods of relative calm and tranquility the bowel in all 4 subjects was found to be pale (yellowish red, corresponding to 30 on the scale), relatively immobile and slack with the mucous secretion thin, watery and scanty in amount and low in lysozyme concentration During phases of anger and resentment the bowel was redder (color varying from 60 to 90 on the scale), hyperactive, engorged, covered with a thick, opalescent, tenacious mucus, which had a relatively high concentration of lysozyme The following examples are typical

Subject A—*Observation 1*—Day to day existence in a sheltered hospital environment is often productive of emotional calm and tranquility However, even such a circumstance may be productive of emotional conflict On March 1, 1948 the subject arrived at the laboratory grim taciturn and with a slightly flushed face. The bowel was hyperactive red (60 on the scale) and engorged the lysozyme concentration was high (55 units per gram of mucus) The surface of the bowel was wet and glistening Even gently touching the hypermotile bowel elicited a strong contraction The patient reluctantly revealed that on the preceding day he had been visited by three physicians in succession who removed his dressing looked at the lesion and then abruptly walked off without saying a word to him He was embarrassed and humiliated by this behavior, and he reacted with anger and resentment He was in conflict whether to complain about this deportment or not Characteristically, he said nothing and was still seething with anger when he was observed the next day

Observation 2—On March 4 the subject was brought to the laboratory one and one-half hours late for his appointment He was quiet, noncommunicative and slightly flushed He was loath to remove his bathrobe Contrary to his usual neat appearance, he was disheveled and unshaven with his hair hurriedly combed The dressing over the lesion was soiled crusted and falling off Only after considerable discussion with him was it possible to learn the circumstances Due to a confusion in orders, the nursing staff was not informed that he was to be brought to the laboratory this day and after an early breakfast he was allowed to sleep again About an hour later when the mistake was realized, he was hurriedly awakened rushed into his robe, pushed into a wheelchair and whisked over to the laboratory in spite of his protests over his dressing shaving and washing This was a deplorable situation to this fastidious man It was the first time he had ever been seen in the hospital in such an ill-prepared state, and he was unable to accommodate himself to this embarrassing situation He reacted with anger and resentment but characteristically he made no complaints and indeed made feeble excuses for those responsible. The membrane was reddened (60) and hypermotile, the lysozyme concentration was 80 units, and the mucous secretion was thick abundant and tenacious

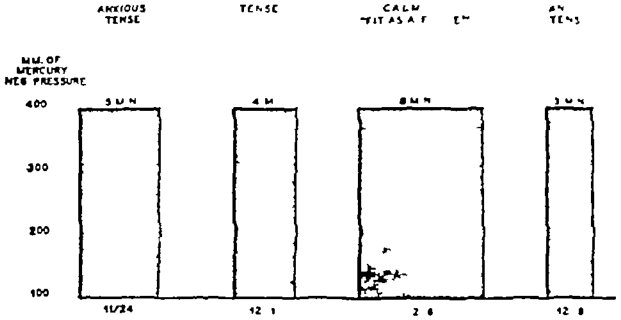

Fig 2 (subject C)—The height of the column represents the negative pressure applied the width of the column represents the duration of application of the force to the colonic mucosa the square area gives an indication of the resistance to injury of the colonic mucosa Note that during times of anger the fragility is increased (resistance to injury is lessened) when compared to that in periods of calm and tranquility

Subject B—The usually placid subject B came to the laboratory April 10 1948, obviously angry because of a conflict with the nurses During the previous night he had soiled his bed linen by the involuntary passage of a stool He regarded this as an unfortunate accident The overburdened nursing staff criticized him severely He was embarrassed and humiliated and reacted with suppressed anger and resentment. When seen a few hours later he was still angry The colon was hyperemic (color 60) engorged and unusually susceptible to injury The lysozyme concentration was 11 units (On his usual day of calm it was 1 unit or less)

Subject C—During phases of good spirits cheerfulness and feelings of calm and security the exposed colon of subject C was pale (30) and immotile and the secretion was thin and watery Lysozyme concentration ranged from 1 0 to 3 6 units per cubic centimeter During periods of conflict anger or resentment the bowel was redder (50 to 60) and more active and secretion was thick and tenacious Lysozyme concentration ranged from 8 to 16 units For example on December 29 he was angry, resentful and had hostile feelings toward a physician who had requested him to come into the hospital for additional experiments He was in much conflict as to whether or not he should comply The patient felt that he was being "pushed around", at the same time he felt obligated to that physician and thought that he (the patient) should be a "good sport" about it The colon was red (60) and hypermotile Secretion was thick and opalescent Resistance to trauma was reduced (fig 2)

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[4] Munsell Book of Color Baltimore Munsell Color Company

[5] Richards C Wolf S and Wolff H G Measurement and Recording of Gastroduodenal Blood Flow in Man by Means of a Thermal Gradientometer J Clin. Investigation **21**:551 1942

[6] Meyer K and Hahnel E. The Estimation of Lysozyme by a Viscosimetric Method J Biol Chem **163** 723 1946

SUBJECT D—On Feb 5, 1949 the patient was seen at the bedside He was angry A few minutes before he had been visited by his former physician, the one who was responsible for giving him streptomycin and thus causing him to be incapacitated because of vertigo He blamed this physician for his loss of equilibrium, believing that the physician had failed to recognize the early signs of toxicity and, had he done so, could have prevented the damage to the equilibratory apparatus of the patient Subject D had forced himself to be "polite" to the physician He began a bitter tirade against the physician, becoming more angry and resentful "It's all his fault" "What did he come up here for anyway?" "I should sue him for everything he's got!" During this outburst of temper there was a reddening of the bowel mucosa from 50 to 70 and pronounced increase in its motor activity The mucosa became engorged, and small turgid folds stood up on its surface During this time the secretion increased from 1 to 3 plus, and gas was passed from the colostomy stroma

Alterations in the Integrity of the Colonic Mucous Membrane—Wolf and Wolff[7] noted the spontaneous occurrence of minute submucosal hemorrhages in association with protracted and sustained feelings of hostility, resentment and anger The membrane displayed the appearance of superficial gastritis In the colon, through the sigmoidoscope Dennis and others have observed petechial lesions in patients with ulcerative colitis during anger[8]

Observations on Subject A—In circumstances of relative calm, security and relaxation the colonic mucous membrane was free of petechial lesions After three days of sustained anger and feelings of hostility, however, there was observed a profuse eruption of petechial lesions on the exposed segment of the colon of subject A These lesions lasted for only twenty-four hours For the three days previous to the appearance of these lesions the patient had been in a state of sustained anger, resentment and hostility over a series of distressing and humiliating experiences associated with his transfer from one hospital to another He was embarrassed and humiliated by the "red tape" and "pushing around" and reacted with his usual suppressed anger and resentment He said nothing to anyone about his feelings and remained smiling and affable throughout

Observations on Subject C—During periods of relative calm and security (this patient seldom if ever seemed tranquil), the membrane showed a few petechial lesions These were pinpoint to pinhead-sized and had a yellow center It was estimated that about 5 per cent of the mucous membrane was covered with these lesions

During a phase of anger and resentment precipitated by conflict over his wife's attitude toward him, many more petechial lesions appeared, and it was estimated that about 90 per cent of the mucosa was covered by them These feelings and lesions persisted for about two weeks and gradually subsided Their disappearance coincided with increasing feelings of security and well-being, brought about by an improvement in his relations with his wife and her improved health and disposition

On December 29 numerous petechiae again appeared For three days the patient had been increasingly angry and resentful at another physician, whom he felt was insisting that he enter the hospital for further experiments At this time he was given reassurance and emotional support and allowed to verbalize his hostility He became calm and tranquil after this interview Forty-eight hours later no petechiae were visible.

Although these lesions promptly disappeared following the expression of emotion, it is fitting to consider the ultimate outcome if the sustained hyperfunction had been allowed to continue Lium was able to produce petechiae and ulcerating lesions in the colonic mucous membrane transplants in dogs His method consisted in eliciting sustained hyperfunction of the bowel either by trauma or by drugs (intravenously given neostigmine methylsulfate and locally applied acetylcholine) or by intravenously given dysentery toxin He concluded that sustained contraction of the bowel resulted in engorgement and the ultimate ulceration of the mucous membrane In the subject reported here sustained anger, hostility and resentment elicited sustained hyperfunction of the bowel This protracted hypermotility and engorgement resulted in the formation of petechiae Had this situation of resentment and anger been allowed to go on it is likely that the bleeding and tissue anoxemia would have gone on to tissue necrosis, sloughing and the formation of ulceration

Fragility of the Mucous Membrane—By using the method previously described for estimating the fragility of the mucous membrane or its reciprocal resistance to injury, we have demonstrated wide variations (fig 2) Thus, if the height of the column represents negative pressure in millimeters of mercury and the width of the column represents the duration of application of this pressure, then the square area enclosed gives an estimate of the force necessary to produce a small hemorrhagic petechia-like injury Observations on subject B show that to produce a lesion during periods of calm, security and relaxation pressures of about 200 mm of mercury had to be applied four to eight minutes, whereas during phases of anger, resentment and hostility (i e, the day on which the subject soiled his bedding), pressure of only 60 mm of mercury had to be applied for one and one-half minutes

Alterations in Lysozyme Concentration—Feelings of anger, resentment and hostility are associated with a hypermotile, engorged colon In these circumstances lysozyme concentration is high[9] The injurious effect of the application of high concentrations of lysozyme to the surface of the colon has been shown[10] That the effect of lysozyme on the intestine which is fragile, or engorged, is more deleterious is certainly highly probable

Ulceration of the Mucous Membrane—Prior to the beginning of our observations subject A was convalescing from an acute exacerbation of his ulcerative colitis which occurred in a setting of protracted resentment over the fact that his brother had started to live with the sister-in-law, after they had been separated for many months He was angry that the brother was going to "take up with her" again and visualized fresh humiliations for himself and other members of the family and further anxiety lest the sister-in-law move back into the patient's house His difficulty culminated when he gained the impression that an acquaintance was spreading rumors about his family in the neighborhood He said that he felt like "beating him" but instead only seethed with anger and resentment for the next few days At this point the bowel was noted to be "very red" with a thick, yellowish discharge from the stoma After hospitalization of the patient the discharge stopped and the bowel became less red, but two weeks later there were still several small shallow ulcerations ⅛ to ¼ inch (0 32 to 0 64 cm) in diameter scattered about the surface of the prolapsed mucosa After a week of observation, when he had established a good relation with his physician (W J G) and felt secure in his environment, relatively cheerful, happy and relaxed, the ulcerations greatly diminished in number

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[7] Wolf, S and Wolff, H G Human Gastric Function An Experimental Study of Man and His Stomach ed 2, New York Oxford University Press, 1947

[8] Dennis C Eddy, F, Frykman H, McCarthy, A, and Westover, D Response to Vagotomy in Ideopathic Ulcerative Colitis and Regional Enteritis Ann Surg **128** 479 1948

[9] Grace, W J, Seton P H Wolf, S and Wolff, H G Changes in Lysozyme Secretion in Various Emotional States, Am J M Sc **217** 241 1949

[10] Meyer, K Gillhorn A, Prudden J, Lehman W, and Steinburg A Lysozyme Activity in Chronic Ulcerative Colitis Am J Med **5** 496 1948 Grace Seton Wolf and Wolff[9]

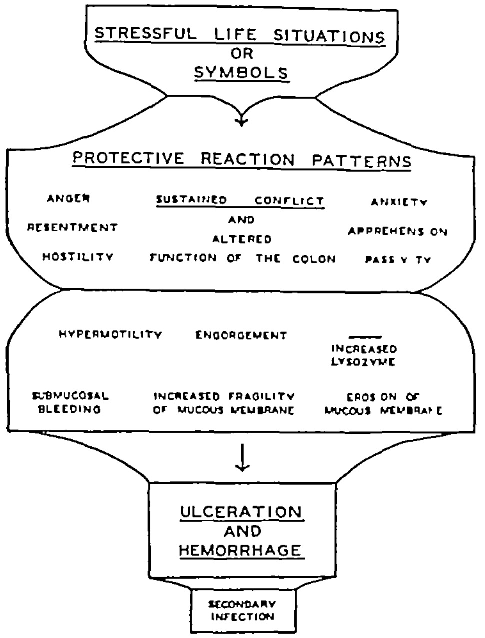

Fig 3 —Diagrammatic representation of the mechanism of production of colonic mucosal lesions as a result of colonic hyperfunction

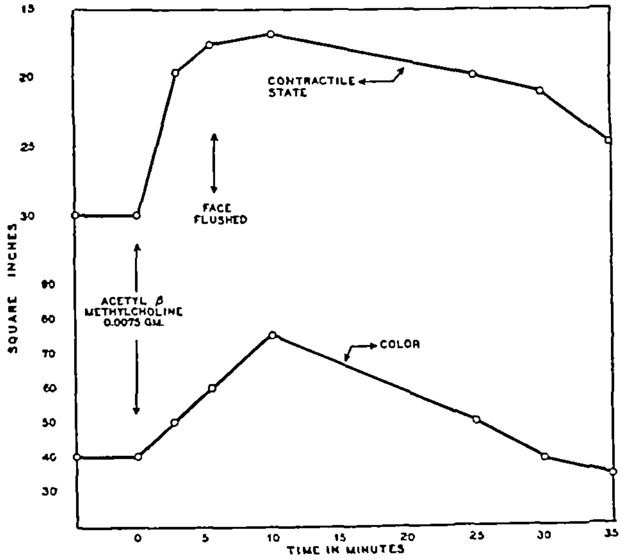

Fig 4 (subject B) —Effect of the intramuscular administration of acetyl beta methylcholine chloride on colonic functions Contractile state represented in the square area (length times width) of exposed colonic mucosa. Blood flow of the exposed mucosa is indicated according to the gradations of the color scale Note the prompt increase in blood flow contractility

Relative Prevalence of Colonic Hyperfunction—The colon of subject A, who had ulcerative colitis, was relatively hyperemic (color higher than 40) more than 50 per cent of the time, but such redness was observed in subject B only half as frequently Lysozyme concentration in the bowel secretion of subject A was high (over 25 units) in 80 per cent of the day to day determinations, but an elevation of lysozyme concentration to 11 units occurred only once over the three week period of observation in subject B Compared to days of calm and security, when the bowel was pale and slack, subject A's bowel was in a state of exaggerated contraction about half of the time A contracted bowel was seen on only one occasion in subject B Subject C who had ulcerative colitis likewise showed a reddened hyperemic colon more than half of the period of observation Subject D, who was in low spirits and dejected on each day of observation, never showed a contracted bowel Subject A was in a state of serious conflict and had suppressed feelings of anger and humiliation more than 50 per cent of the time in contrast to subject B, who was angry and resentful only once during the period of observation

COMMENT

Kymographic tracings were recorded from the sigmoid portion of the colon in a series of subjects with ulcerative colitis These showed either a straight line recording, indicating sustained colonic contraction or a rise in the base line of the tracing during feelings of anxiety or resentment, indicating a sustained contraction in the sigmoid region[11] Increased rhythmic contractility sustained contractions, hyperemia, engorgement, hypersecretion of lysozyme and the secretion of a thick tenacious mucus has been observed in all of our fistulous subjects during periods of anxiety or anger We believe that the engorged mucosa and the continued hyperfunction lead to submucosal bleeding and ultimately to ulceration Finally, the increased lysozyme concentration may contribute to the damage by eroding the mucous membrane The engorged fragile eroded mucous membrane is probably easily invaded by indigenous fecal micro-organisms or is further damaged by the action of substances normally present in the fecal stream This thesis is shown diagrammatically in figure 3 Wener and Simon s work[12] producing ulcerative colitis in animals was done by the prolonged administration of methacholine chloride, which agent produced hyperfunction of the colon in our subjects B and C[13] (figs 4 and 5)

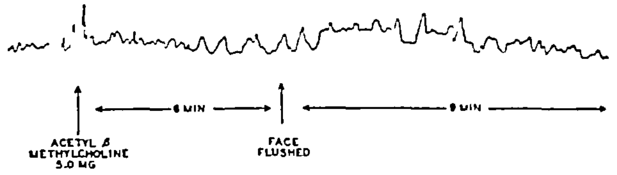

Fig 5 (subject B) —Kymographic tracing showing response of the descending colon to the intramuscular administration of acetyl beta methyl choline chloride Note the elevation of the base line and increase in amplitude of contraction following the injection The balloon was lying in the descending colon (see fig 4)

The following conclusions concern the ascending, transverse and descending colon as observed in these 4 subjects

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[11] Grace, W J Wolf S and Wolff H G The Human Colon New York Paul B Hoeber Inc to be published in 1950

[12] Wener H E and Simon M A Production of Ulcerative Colitis in Dogs by the Prolonged Administration of Mecholyl Gastroenterology **12** 637 1949

[13] Grace W J Holman C W Wolf S and Wolff H G The Effect of Various Pharmacologic and Physical Agents on the Human Colon in preparation

CONCLUSIONS

1 Feeling states characterized by anger and resentment are associated with hyperfunction of the colon This hyperfunction of the colon is manifested by hyperemia, engorgement, hypermotility, hypersecretion of mucus and of the enzyme lysozyme

2 Hyperfunction of the colon results in increased fragility of the colonic mucosa

3 The colon during periods of anger and resentment resembles the colon after the administration of methacholine chloride

4 Sustained feelings of anger and resentment associated with sustained hyperfunction of the colon result in submucosal bleeding and ulceration

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ABSTRACT OF DISCUSSION

Dr Thomas P Almy, New York The typical ulcerative colitis patient is referred to as an immature, overly dependent, indecisive, submissive person who deeply represses his feelings, the neurosis begins before the illness, and the onset of the illness usually occurs in association with some crisis, in which the need of this person for tender care is threatened, typically by the loss of a parent This is usually associated with a clear-cut emotional conflict involving an overlay of guilt and a deep undertone of resentment and hostility The experiments which Dr Grace has described will be of lasting importance because they demonstrate that during such emotional conflict there are significant changes in the colon Associates and I made studies on 125 normal, unoperated human beings, in whom we noted only the motility and the mucosal engorgement of the sigmoid In these we have regularly observed a significant correlation between emotional conflict and a decided increase in motility and mucosal engorgement similar to the changes observed by Dr Grace and his associates They imply that all parts of the colon probably respond in the same way, simultaneously, to an emotional stimulus This may not always be the rule When Cannon confronted his cats with a growling dog, the distal portion of the colon did not participate in the general paralysis of bowel motility We have no satisfactory simultaneous observations on the motility of the proximal and distal portions of the human colon during emotional conflict Recently, however, Dr Fred Kern has shown that methacholine chloride, subcutaneously administered, simultaneously increases the motility of the ascending colon and decreases the motility of the sigmoid Thus it seems possible for a systemic stimulus to affect various portions of the colon differently I do not believe, with Dr Grace, that these observed colonic changes are specifically related to the emotion of anger or hostility I think of them as frequent bodily accompaniments of any prolonged emotional conflict I am more impressed with the submissive tremulous behavior of the patient with ulcerative colitis than with his anger It has been pointed out that suppressed anger is an important element in the development of hypertensive vascular disease and peptic ulcer, two conditions which seldom develop in the patient with ulcerative colitis Were any observations made on gastric function or on blood pressure during these experiments?

Dr Asher Winkelstein, New York The cases reported indicate that under the stress of certain acute, overt, conscious emotional disturbances there results a general excess in physiologic function including the motor activities, secretion, circulation, fragility and lysozyme concentration It seems definite that the response of the emotionally disturbed patient with ulcerative colitis was much greater (leading even to petechial hemorrhages) than that of the placid patient with the diverticulitis stricture The authors imply that such excessive responses may be of etiologic significance Our psychosomatic group at Mount Sinai Hospital recently studied on the service of Dr M Ralph Kaufman a patient with severe ulcerative colitis, who had a large cecostomy opening with a prolapsed cecal and ascending colonic mucous membrane Dr Grace assisted us with the physiologic studies in this case We noted extreme and rapid fluctuations in vascularity, ranging from decided pallor to severe hyperemia, even to petechial hemorrhages, in association with certain emotional changes This patient, when in a dying state from wounds received at the battle front, was threatened with death by a German army officer After his escape and subsequent multiple surgical operations, ulcerative colitis developed He is undergoing further surgical treatment now, and unconsciously he identifies physicians, particularly surgeons, with the threatening German army officer The hyperemic changes predominated in him Secretion, fragility and lysozyme production varied in narrow limits, and it was noted that his motor activities seemed decidedly diminished This suggests a dissociation in intestinal functions We believe that this phenomenon of dissociation, hitherto undescribed, may be of considerable importance in the various disease processes in the gastrointestinal tract and that it therefore deserves special study In the past most psychosomatic studies, like the present one, have stressed hyperfunction (or, less frequently, hypofunction) as an etiologic agent Prolonged psychoanalysis, with the method of free association, and parallel physiologic studies of the organ involved will probably prove to be the most fruitful types of study

Dr Sidney Portis, Chicago In medical school many years ago physicians learned the physiology of the gastrointestinal tract as applied to dogs and cats and tried to integrate that evidence later with what happened in man It is wholesome when such capable investigators as Grace, Wolf and Wolff, and particularly Wolf and Wolff, offer objective evidence of what really goes on in the body, taking the guesswork out of gastrointestinal medicine The behavior of the human colon as a result of emotional disturbance under certain life situations is illuminating The problem that concerns the gastroenterologist, who cannot perform a gastrostomy or colostomy in every patient, is what he can do from the pharmacologic approach to relieve these patients of their altered physiology Apparently supportive management is not enough I would be interested to see what Dr Grace and his associates could do in these same subjects if they had drugs which could block out or prevent these emotional disturbances from reaching this segment of the gastrointestinal tract Apparently there are pleomorphous emotional patterns which can give the results shown I recognize that there is a definite emotional factor in ulcerative colitis, but I am not convinced that all the emotional patterns, to which the psychiatrists attribute production of the pathologic phenomena of ulcerative colitis as the end result, are as important as they would like to have one believe One should look for some basic emotional factor which would be the common denominator in all cases The other emotional factors which exist in the person with ulcerative colitis could therefore be looked on more or less as "window dressing" In our studies the basic psychiatric pattern of the patients was the wish to give or compensate They dressed it up in any type of emotional whim or pattern that suited their behavior

Dr William J Grace, New York The methods of collecting data used in these studies in the psychosomatic clinic at the New York Hospital consisted of taking from the patient a detailed biographic history, interviewing his relatives, friends and other patients on the ward with him, utilizing his dreams, and by interviewing him when he is under amobarbital sodium (amytal sodium®) sedation, by observing what the patient says and does not say When the patient says he is angry, there is no reason to disbelieve him It has always been difficult to deal with the problem of conscious versus unconscious conflict The phenomenon of consciousness or unconsciousness is a matter of relativity or a matter of degree or awareness Our patients with ulcerative colitis had conflicts and problems which were with them every minute and every day, but which only became feared when some incidents in their lives brought the conflicts to their awareness, or when we brought the problems to their awareness We look for conflicts and difficulties in the patient's life, and then in the experimental laboratory we precipitate these conflicts by deliberately discussing them with the patient We then correlate our observations with the biographic history of the disease With regard to the available antispasmodic agents, we have tested all of them on most of our subjects None of them are powerful

MEDICAL GROUP PRACTICE IN THE UNITED STATES

VI Income of Physicians

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This is the sixth report from the Division of Public Health Methods in a series on medical group practice in the United States [1] The financial returns and other material benefits that may be expected by physicians from participation in group practice would seem to be of practical interest to the medical profession generally Available data on the subject are therefore presented herewith These data, although based on a small sample of groups, reflect the actual and recent experience of physicians in group practice and to this extent may serve as some index of existing conditions

The bulk of the information at hand was obtained from 22 groups studied intensively, each over a period of about two to three weeks by a representative of the Public Health Service In selecting the groups for intensive study, an attempt was made to secure representation with regard to geographic locality, size of community, number of physicians comprising the group, type of group ownership and the like, an additional determining factor was the maintenance of medical records by the group The composition of the sample of groups studied intensively, according to a report now in preparation, corresponds fairly closely, except for a somewhat higher proportion of large groups, with a much broader sample of groups surveyed by questionnaire in 1946 [1c] Groups other than those intensively studied were visited briefly by a member of the survey staff in the course of field trips over the country, and some additional material on sick leave allowed physicians was obtained and integrated with the data of the intensive groups

INCOME OF PHYSICIANS

Income pertains to 1945 and 1946 and is based on the fiscal statements generously made available by 18 of the medical groups studied intensively [2] Table 1 gives an estimate of the annual income per practicing physician in these 18 groups The net income has reference to actual cash distributed to the physicians Part-time physicians were counted as one-half members in the distribution of the groups' income, and similar adjustments were made for physicians with the group only part of the income year Total income in one group is based on ten months and in another group on eleven months, the group income in each instance being raised to a twelve month level

As will be noted in table 1, the group net income per physician in the 18 groups ranged from approximately $7,000 to $25,000 a year and the gross from about $9,000 to $44,000 [3] Substantial sums considered by 6 groups as net income had not been distributed to the physicians as cash but were kept as reserves or spent for insurance income taxes and the like Including this nondistributed "net in the calculation of income per physician would raise the mean to $16 352 for all the groups Compared with the income of medical groups in 1929 as given by Rorem,[4] there has been an increase of 76 7 per cent in the gross and 54 9 per cent in the net group income per physician during an interval of sixteen or seventeen years An increase of about 87 per cent in average gross income among practitioners in general has taken place between 1928 and 1947 as computed from data given in *Medical Economics* [5] In this same issue of *Medical Economics*, Richardson gives the mean income of physicians in group practice in 1947, determined by a questionnaire survey, as $26,998 gross and $16,493 net Each of these figures is 51 7 per cent more than the corresponding mean income of physicians practicing individually also given by Richardson in this paper [6] His averages for physicians in group practice, it will be noted are similar to those of the present sample, although it is not clear whether all physicians in group practice or only the partners in a medical group were considered in Richardson's computations The latter is suggested by the context of the article, and, if so, the two samples of group physicians would not be strictly comparable [7]

TABLE 1—*Gross and Net Group Income per Physician in 18 Medical Groups 1946*

Group No	Size of Group*	City Size†	Group Income per Physician	
			Gross	Net
1	Large	3	[illegible]	[illegible]
2	Large	1	[illegible] §	[illegible]
3	Medium	1	[illegible]	[illegible]
4	Small	1		[illegible]
5	Medium	1	[illegible] §	[illegible]
6	Large	1	[illegible]	[illegible]
7	Medium	3	[illegible]	[illegible]
8	Large	2	[illegible]	[illegible]
9	Medium	1	[illegible]	[illegible]
10	Large	1	[illegible]	[illegible]
11	Large	3	[illegible]	[illegible]
12	Small	1	[illegible]	[illegible]
13	Large	3	[illegible] §	[illegible]
14	Small	1	[illegible]	[illegible]
15	Small	1	32 179	[illegible]
16	Large	1	[illegible]	20 401
17	Large	1	[illegible] §	[illegible]
18	Medium	1	[illegible]	[illegible]
Mean			[illegible] 447	[illegible]

* Size of group refers to number of full time physicians or the equivalent thereof (i e 2 part time members would be counted as 1 full time physician) The classification is as follows small [illegible] to [illegible] physicians medium 6 to 10 physicians large 11 or more physicians

† 1 = under [illegible] population 2 = [illegible] to [illegible] 3 = [illegible] and over Population refers to the 1940 census

Net refers to actual cash distributed to physicians

§ Group operates a hospital (owned by physicians consumers or nonprofit foundation) Gross income represents receipts for physician services only Where a prepayment plan is in effect (in 2 groups) the income from the plan is also included in the gross

The gross income includes the receipts of 1 employed dentist the mean gross income being weighted accordingly

The income of several dentists is included in the gross and the mean gross income has reference to physicians and dentists

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1 (*a*) Hunt, G H Medical Group Practice in the United States I Introduction New England J Med **237** 71 77 (July 17) 1947 (*b*) Hunt G H and Goldstein M S Medical Group Practice in the United States II Survey of Five Groups in New England and the Middle Atlantic States New England J Med **237** 719 731 (Nov 13) 1947 (*c*) Medical Group Practice in the United States III Report of a Questionnaire Survey of All Listed Groups 1946 J A M A **135** 904-909 Dec 6) 1947 (*d*) Goldstein M S Medical Group Practice in the United States IV Organization and Administrative Practices J A M A **136**: 857-861 (March 27) 1948, (*e*) Medical Group Practice in the United States V Growth of Groups Journal Lancet **69** 42-46 (Feb) 1949

2 Income refers to 6 groups in 1945 and to the remaining 12 in 1946 For the sake of convenience only the date 1946 will be used in the discussion and tables to follow

3 Group income per physician was obtained by dividing the total gross and net respectively by the number of physicians practicing in the group during the income period

4 Rorem C R Private Group Clinics The Administrative and Economic Aspects of Group Medical Practice as Represented in the Policies and Procedures of Fifty Five Private Associations of Medical Practitioner Publication no 8 Washington D C Committee on the Costs of Medical Care 1931

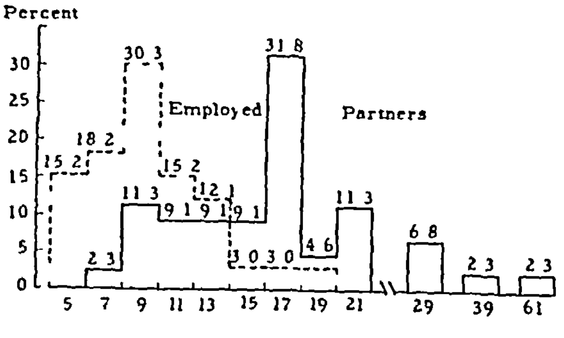
5 Richardson W A Physician Income M Economics [illegible] (Sept) ibid. **26** 63 (Oct) and 59 (Nov) 1948 ibid **26** 63 (Jun) 1949

6 The material of the *Medical Economics* survey [illegible] was obtained by means of a reply postcard bound into each of the [illegible] copies of the March 1948 issue According to *Medical Economics* cards that had not been filled in fully or the accuracy of which there was any doubt were eliminated as were other cards discarded in the process of weighting the return The sample used comprised 4 [illegible] replies

7 Forty three per cent of the physicians in the 18 groups listed in table 1 were employed member

All but three of the groups listed in table 1 were partnerships, and 13 of the partnership groups had at least one employed physician on their staffs Of the three nonpartnership groups, one was sponsored by a consumer organization and two were hospital groups, all physicians in each being employed by the sponsoring agency[8] The net group income per physician in the nonpartnership groups was $10,270, a lower figure than the mean for all the groups As regards the effect of the size of the group or the size of the community in which the group was located, all that may be said on the basis of the present small sample is that groups of 4 and 5 members have apparently earned as much net income as have groups with 23 physicians, and some groups in small communities show as large a gross and net group income per physician as do groups located in large communities

Regional differences in mean earnings of physicians, as shown by Richardson,[6] are substantial In the present instance the distribution of groups by census region was as follows Middle Atlantic, 3, East North Central 5 West North Central 3, East South Central, 1, West South Central, 3, Mountain, 2, Pacific, 1



Percentage of employed physicians (33) and partners (44) in group practice receiving the indicated annual net income 1946

There has plainly been no special selection of groups from high medical income areas, such as, for example, the far west

The net income of individual physicians is available for 77 members of the groups listed in table 1 Here, too, annual income was adjusted when necessary, e g , net cash received by a physician with the group seven months was raised to a twelve month level Such adjustments were made in about half of the individual incomes

Table 2 gives the net income of these physicians, according to status (partner or employed) and age The mean earnings of the total 77 physicians were about $14,000 (median $12,000) This sum is approximately a thousand dollars less than the average group income per physician shown in table 1, a difference which may be due in part to the fact that bonuses, often given to employed physicians at the end of a year of service,[1d] were usually not included in the income of physicians who were with a group less than a year Such bonus funds, however, as distributable net income, were counted in the group income per physician (total net of the group divided by number of physicians) It may be noted in this connection that 33 of the 77 physicians were employed members of the groups

In table 2 may also be discerned a striking difference between the net incomes of partners and employed physicians, the former earning on the average almost double the amount of the latter[9] The age of the physician seems to be less important a factor in the income of employed physicians than among the partners in groups, although the number of physicians in each rubric when the sample is split by status and age becomes small, and the results can only be considered suggestive The higher income of the older partners, in contrast to that of the younger, is probably due in part to a generally greater share in the assets of the group by reason of seniority in the partnership The *main difference in net income, however,* is between the partners and employed physicians of the groups The chart indicates the extent of this divergence[10]

TABLE 2—*Net Income Distributed to Physicians in Group Practice, by Status and Age of Physicians, 1946*

Status of Physicians	Total Physicians			Income by Age of Physicians					
				Under 40 Years			40 Years and Over		
	No	Mean Income	S D	No	Mean	S D	No	Mean	S D
Partners	44	$17,497	$9,179	9	$15,229	$5,239	35	$18 081	$10 037
Employed	33	9,331	3,423	20	9,141	3,446	13	9,622	3,536
All physicians	77	13,997	8 381	29	11,030	4,911	48	15,790	9 513

The net income of the group physicians in relation to years in medical practice (excluding time spent in internship and residencies), compared with apparently similar data for "independent physicians" in active practice during 1947 as given by *Medical Economics*[6] is indicated in table 3 The tabulated results suggest that physicians in groups earn more, rather than less, after nineteen years in practice, in contrast to conditions in general in the profession This trend occurred among both employed members and partners of the groups, but much more clearly among the latter Two thirds of the employed physicians had been in practice less than ten years at the time of the study The mean number of years in practice for all 73 physicians was 16 6

A word may be said about the variability, expressed by the standard deviation, in table 3 The observed marked difference in this respect between the young men and those in practice ten or more years is likely due to the fact that the income of the former represents for the most part salaries whereas that of the older men refers to the division of pooled income by partners Earnings of partners, depending on factors like total intake of the group, percentage of assets owned by the individual partner and relative share of net agreed on

TABLE 3—*Net Income of Physicians in Relation to Years in Medical Practice*

Years in Practice	Net Income of Physicians in			
	Group Practice			Independent Practice *
	No of Physicians	Mean	S D	Mean
Under 10	25	$ 9,891	$ 3 861	$ 9,329
10 to 19	24	14 133	7,162	13,157
20 to 29	13	18 244	7,004	12 248
30 and over	11	19,711	14,426	10,306
Total	73†	$14 253	$ 8 526	$11 300

* From Richardson[6]
† Of the 77 physicians in group practice whose income was known, the years in practice of 4 were unknown

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[8] For a definition of the various types of groups the reader is referred to previous papers of the series (footnote 1 *a* and *d*)

[9] The median income was generally somewhat less than the corresponding mean in tables 2 to 4 (except in 3 instances where it was slightly higher) Consideration of the medians instead of the means would not have materially affected the noted tendencies

[10] The amounts given in the chart refer to mid points, e g , $5 000 is the middle of the income range of $4 000 to $5 999

for each partner, would ipso facto seem much more susceptible to greater variation than would the salaries of employed physicians[11]

Table 4 indicates the role of specialist status with respect to income The mean income for all group physicians who limited themselves to a specialty, $14,491, is virtually identical with that given in *Medical Economics* for full specialists in 1947, i e, $14,442 Of special interest, however, is the relatively small difference in income between full specialists and physicians not limited to a specialty,[12] evident among the partners and employed physicians in the group, in contrast to the substantial difference between partners and employed regardless of specialist status Among the 23 physicians recorded as not limited to a specialty, 8 had classified themselves as surgeons, 5 as obstetricians, 4 as internists and 2 as pediatricians Likely enough the practice of each of these men was largely confined to the field specified

The possibility of a preponderance of group physicians in high income specialties was checked Actually, 22, or less than half of the 52 physicians limiting themselves to a specialty, were in high income fields (those in which, according to the survey by *Medical Economics*,[5] earnings were higher than the average for all specialists) These high income specialties and the number of group physicians limited to each were as follows eye, ear, nose and throat, 8, general surgery, 6, radiology, 5, obstetrics, 3 The numerically largest specialty was internal medicine, in which were 19 physicians, 15 of whom limited themselves to this field of practice In short, the data on income of physicians in medical groups are evidently not affected by excessive weighting in the high income specialties A breakdown of income by various specialties is not attempted in view of the small representation in each

Table 4—*Net Annual Income of Physicians in Group Practice with Respect to Specialists and Nonspecialists 1946*

Practice of the Physician	Net Income of								
	Total Physicians*			Partners			Employed		
	No	Mean	S D	No	Mean	S D	No	Mean	S D
Not limited to a specialty	23	$13,345	$4 761	12	$16,518	$ [illegible],337	11	$9 863	$4,300
Limited to a specialty	52	14 491	9 654	32	17,865	10 817	20	9 093	3 065
Certified specialists	32	17,306	11 059	24	19,976	11,558	8	9 067	3,557

* The status with regard to specialization was not known for 2 employed physicians who earned $7,344 and $10 000 respectively

OTHER MATERIAL BENEFITS

In addition to annual cash income, many medical groups provide their staff members with other benefits which ordinarily have a money value and often are considered as equivalent to income Such advantages are vacations and sick leave without loss of income, insurance premiums of various sorts paid by the group and retirement provisions The number of medical groups reporting benefits of this kind will therefore be noted, and a brief quantitative appraisal of each, so far as feasible, will be attempted

Vacations—The individual physicians in 21 of the groups studied intensively were asked the amount of time they had taken for vacation during the preceding year During the period under discussion 1945 and 1946, the shortage of physicians in civilian practice on account of the war was still acute Many of the group physicians mentioned this fact as a reason for having curtailed their vacation period or in some instances not having taken any at all In any case a total of 176 full-time physicians responded to the query, reporting an average of 17 9 ± 9 74 days of vacation, 115 partners of this total number of physicians took an average of 18 9 ± 10 3 days, and 61 employed members were allowed 16 1 ± 8 36 days[13] It has been reported that "independent" physicians in general (those receiving less than half their income from salaries) took an average of eleven days of vacation in 1943 and of sixteen days in 1947[14]

Individual groups have their own special arrangements as regards vacation time allowed For example in some the length of service with the group determined the amount of time allowed, usually one or two weeks more being given to physicians after about two years with the group, in one group the age of the physicians was taken into account, and in other groups the partners received somewhat more time than the employed staff members The employed physicians in partnership groups are often younger men many of whom are on a "probation" period of a couple of years or so before being accepted into the partnership[14d]

Sick Leave—The question of sick leave allowed members of the staff was put to 35 groups, with the following results The amount was 'not specified" in 12, was "not limited" in 7 and averaged 156 6 days (median, 90 days) in the remaining 16 groups which indicated extent of sick leave permitted members The term "not specified" probably means that each case was considered as it arose, with no prearranged set period applicable to all There was no difference in the amount of sick leave for partners or employed physicians in 7 partnership groups which specified the time allowed The variation in paid sick leave was great ten days to one year in different groups yet the trend was definitely on the liberal side 12 of the 16 groups that specified the time allowed providing sixty days or more Examples of the divergence in handling the issue of sick leave by groups, according to their own comments on the subject, are "Policy is to make decisions for each case as it arises" First six months leave with full pay, second six months at half pay, with a review of the case by the Executive Committee at the end of twelve months to determine the physician's future status with the group" "One month on full salary not more than 75 per cent of his salary thereafter" "One month of sick leave after one year with the group, two months after five years Two weeks plus free medical and surgical care' ' A man is carried six months at income level of his last active month and another six months at half that income

Insurance—Of the 22 groups studied intensively 18 were partnerships and 11 of these provided life insurance to cover equity of members Six of the 22 groups carried other forms of life insurance for staff physicians including employed members In some groups the life insurance was carried as part of a retirement plan In one group the junior partner bought the customary life insurance policy on which after he attained senior status, the group paid an additional one tenth of the premium each year until it assumed the total cost Disability insurance as such was apparently uncommon, only 2 of the 22 groups noting this service Malpractice insurance for staff members was carried by 21 of the 22 groups

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[11] The high standard deviation in relation to its mean observed in some instances indicates that it may not be an adequate descriptive statistic of the distribution in these cases

[12] The difference between the means was not statistically significant at the 0 05 level of probability both in the case of partner and employed physicians

[13] The ± sign and figure after it refer to standard deviation The difference between the means of partners and employed [illegible] significant statistically at the 0 05 level of probability

[14] (a) M Economics 22 [illegible] (Feb) and [illegible] (June) 19[illegible] [illegible] 23 [illegible] (Nov) 1945 (b) Footnote [illegible]

Retirement Plan or Annuity—Seven of the 22 groups intensively studied reported having a definite retirement or annuity plan The age at normal retirement ranged between 60 and 68 years in these groups, although a physician at his own request was permitted in some groups to remain on the staff for several years longer, occasionally on a "partial retirement" basis In one group the salary of a physician was reduced 5 per cent annually after he reached the age of 65 years In another, one half of the premium on an annuity was paid by the clinic after a physician had served five years with the group

Miscellaneous Benefits—Thirteen of the 22 intensively studied groups paid the professional society dues of their members Leave for clinic trips was common, occurring in 21 of these 22 groups The average work day for 217 full-time physicians in group practice, according to their own statements, was 9 4 ± 2 05 hours In 1943, as reported by *Medical Economics*,[14a] the mean number of hours spent daily in practice was 10 4 for physicians in general and 9 9 for full specialists The number of "free" days afforded the group physicians averaged 1 3 per week, 83 per cent of the total number had 1 to 1½ days "free"

COMMENTS

Other things being equal, it seems fair to assume that the development of medical group practice as a widespread phenomenon will be considerably influenced by the kind of remuneration and other tangible benefits likely to accrue to the physicians in this mode of practice To what extent the income data of the 18 medical groups reported on reflect general conditions, it is impossible to say with certainty To be sure, as noted in the beginning of the paper, every effort was made to obtain a representative sample of groups for intensive study, and for this reason it is felt that the results of the present report are suggestive of conditions in medical groups in general It should be understood, however, that the present data do not "predict" higher incomes for physicians entering group rather than other forms of practice

SUMMARY

A report is made on income and other material benefits received by physicians in a number of medical groups The data refer to conditions in 1945 and 1946 and indicate the following

1 The annual group income per physician in 18 clinics ranged from a net of about $7,000 to $25,000 a year The net income of 77 individual members of these groups averaged $14,000 There was a marked difference in income between partners and employed physicians in groups, the average of the first being $17,497 and that of the latter $9,331 In contrast to conditions in the medical profession generally, the income of group physicians tended to increase with years in practice The role of specialization appears to be secondary, in the matter of income, to that of partnership status in the group

2 Nearly 18 days of vacation on the average were received by 176 full-time staff members of groups during the year Sick leave was "not limited" in 7 groups, and 16 other groups allowed an average of 157 days (median 90 days) per year Life insurance to cover equity of partners was carried by the group in 11 of 18 partnerships, malpractice insurance by the group for its members was common Seven of 22 groups providing information on the subject noted retirement or annuity plans for their staff members The average work day for the group physicians was 9 4 hours, 1 to 1½ "free" days per week were afforded the physicians in most groups

TREATMENT OF AMEBIASIS WITH AUREOMYCIN

Report of Thirty-Eight Cases

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The discovery by McVay, Laird and Sprunt[1] that aureomycin is effective in the treatment of amebiasis offered a new mode of antibiotic attack against this widespread and tenacious disease The purpose of this paper is not to discuss amebiasis in general, which has been reviewed adequately elsewhere,[2] but specifically to report on the treatment with aureomycin of 38 patients seen in private practice No claim is made that the dosage of the drug employed in this series of patients was adequate Indeed, it is obvious that even more vigorous use of aureomycin is indicated than is herein reported

METHOD OF SELECTION OF PATIENTS

All patients selected for this study had active amebiasis with persistent symptoms and positive stools Almost without exception all had had repeated ineffective courses of carbarsone and diodo-hydroxyquinoline (diodoquin®) administered as follows carbarsone (0 25 Gm) after each meal for ten days followed by three tablets of the hydroxyquinoline compound (each 0 21 Gm) after each meal for twenty days, followed in turn by ten more days of carbarsone therapy Many had had numerous courses of these drugs as well as regimens of iodochlorohydroxyquinoline (vioform®) (0 25 Gm), two tablets twice a day for ten days, this course being repeated after a rest period of one week A few had had emetine hydrochloride and chiniofon It is clear, then, that the patients most difficult to cure were selected for aureomycin therapy In this way the drug was put to a severe test, and even with the small doses used in this group of patients it achieved some spectacular successes Had numerous, mild, previously untreated cases of amebiasis been included, the percentage of cures with aureomycin undoubtedly would have been higher

METHOD OF TREATMENT

Each patient was treated on an ambulatory basis and was given twenty-eight capsules of aureomycin (each 0 25 Gm) over a period of four to seven days Antacids, alkalies, belladonna and barbiturates were used to control the nausea so commonly induced by

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From the Department of Medicine University of Tennessee College of Medicine fellow of the American College of Physicians

[1] McVay L V Laird R L and Sprunt D H A Preliminary Report of the Successful Treatment of Amebiasis with Aureomycin Science **109** 590 591 (June 10) 1949

[2] Craig C F The Etiology Diagnosis and Treatment of Amebiasis Baltimore Williams & Wilkins Company, 1944 Bundesen H N Connolly J I Rawlings I D, Gorman A E McCoy G W and Hardy A V Epidemic Amebic Dysentery The Chicago Outbreak of 1933 Nat Inst Health Bull **166**: 1 187 (March) 1936 D Antoni J S The Pattern of the Literature of Amebiasis 1932 1947 A Commentary on Trends Am J Trop Med **29** 269 293 (May) 1949 Bovers L M Human Amebiasis A Review of Seven Hundred Cases Expressing 1961 Complaints, California & West Med **39** 397 401 (Dec) 1933 Anderson H H Johnstone, H G, Packer H Young, J D, Callison M K Hambly, A S Jr, Anderson J V D and Reed R K Incidence and Control of Amebiasis and Other Intestinal Protozoan Infections in a Memphis Hospital Am J Trop Med **28** 373 382, 1948

aureomycin, and often paregoric was required for relief of abdominal cramping Rectal and perianal burning were frequent side effects

Since amebiasis induces no effective immunity and reinfection is so common, it is often impossible to determine whether a patient returning with a positive stool has failed to be cured or has contracted the disease again Every attempt was made to get each patient to have the stools of all members of the household, including the cook, checked for Endameba histolytica, but sometimes this was not done Moreover, all patients were ordered to avoid raw fruits and raw vegetables in public so as to help avoid reinfection

CRITERIA FOR CURE

Two weeks after the patients received the last dose of aureomycin they reported for stool examination In each case at least five warm liquid stools were examined after saline purgation If the result was negative and the patient free of symptoms he was listed as "cured" (see the accompanying table) It is readily admitted that more rigid criteria for cure are desirable, but in private practice it is often impossible to get a patient who now feels well and who has had five negative stools to return repeatedly to the office for such an unpleasant and time-consuming test In many instances follow-up stool examinations at intervals of two to three months were persistently negative, but this was not possible in all cases

Practically all patients were decidedly improved by the course of aureomycin, even those whose stools were still positive In fact, many of the latter felt so normal they could hardly believe that they still harbored the parasite In my experience aureomycin gives the most consistent and rapid symptomatic relief of all amebacides This may well be because it kills not only E histolytica but perhaps also secondary invaders

REPORT OF CASES

The following 3 cases are typical not only of the difficult condition of patients on whom the drug was used but also of the rapid response to aureomycin

CASE 1—K. E J, a medical student aged 29, had intermittent diarrhea and dyspepsia of nine months' duration. A detailed history revealed nothing worthy of comment except episodes of paroxysmal tachycardia of unknown type since childhood The physical examination revealed normal conditions except for a temperature of 99 7 F and a tender liver enlarged 2 fingerbreadths below the right costal margin. Cysts of E histolytica were found in the fifth warm liquid stool passed after saline purgation Blood cell counts, sedimentation rate reactions to blood Kahn tests upper gastrointestinal fluoroscopic and roentgenographic examinations electrocardiogram and teleoroentgenogram were normal The voided urine showed a trace of albumin, 6 to 8 hyaline casts a rare erythrocyte and 10 to 12 leukocytes per high power field centrifuged specimen The sulfobromophthalein sodium liver function test showed 7 5 per cent dye retention sixty minutes after the intravenous injection of 5 mg of dye per kilogram of body weight.

A diagnosis of amebic colitis with amebic hepatitis was made and the patient was given one 0.25 Gm capsule of aureomycin after each meal and at bedtime for eight days Two weeks after the last dose of aureomycin he returned feeling greatly improved His only complaint was occasional heartburn His temperature was normal, and his liver was barely palpable. Five warm liquid stools were negative for E histolytica The sulfobromophthalein sodium test performed as previously described showed no dye retention at sixty minutes the result of the thymol turbidity test was 3 units and the quantitative serum bilirubin 0 51 mg per hundred cubic centimeters The urine was normal except for a trace of albumin

This case is of interest because it shows that amebic hepatitis may be cured by aureomycin. However I have seen a severe amebic liver abscess which failed to respond to heavy and prolonged doses of aureomycin but which resolved promptly with emetine hydrochloride.

CASE 2—V X, a housewife aged 43 on Aug 27, 1948 gave a history of colitis for the past thirty years manifested by explosive attacks of diarrhea every four to five weeks often alternating with constipation She habitually passed much flatus and some mucus Years previously she had had slight melena. She was tired, worried and highly nervous Physical examination was noncontributory except for a temperature of 99.3 F and vague tenderness in the right upper abdominal quadrant. The liver was not palpable. The patient s stools were full of motile and cystic E. histolytica. The sedimentation rate by *the Cutler method measured 20 mm in one hour* The serologic reaction to the Kahn test was negative. and the urine was normal There was no anemia, but leukocytosis (12 050 cells with 78 per cent polymorphonuclear neutrophils) was present. A teleroentgenogram and electrocardiogram performed because of the patient s fears of heart disease were normal Complete gastrointestinal roentgenographic examination was normal except for spasticity of the sigmoid colon Cholecystograms were negative. A sigmoidoscopic examination showed much mucus and an occasional small ulcer

The patient was given carbarsone (0.25 Gm) after each meal for ten days This was followed by three tablets of diiodohydroxyquinoline (each 0.21 Gm) after each meal for twenty days, and then the ten day course of carbarsone was repeated She returned Nov 4, 1948 feeling greatly improved but her stools were still positive for E histolytica I then prescribed two tablets of iodochlorohydroxyquinoline (each 0.25 Gm) twice a day for ten days then a week without the drug then another *ten day course of it.* On Dec. *20 1948 motile* E histolytica were again demonstrated in her stool easily She then repeated the forty day regimen of carbarsone and diiodo hydroxyquinoline as previously described. She returned Feb 28 1949 still not feeling well, and again her stool was positive. She was given 9½ grains (0 61 Gm.) of emetine hydrochloride solution by intramuscular injection in a period of ten days during which time she took two tablets of iodochlorohydroxyquinoline twice a day After a week without treatment she repeated the ten day course of the hydroxyquinoline compound

Results of Treatment

Number of patients treated	38
Number of patients not cured	11
Number of patients cured	27
Percentage of patients cured	71%

On April 18, 1949 cysts of E histolytica were again found in her stools She was given *aureomycin (0.25 Gm)* every four hours for twenty-eight doses Her stool was rechecked with negative results on May 16 1949, and she stated that aureomycin had stopped her symptoms dramatically She volunteered that she felt normal for the first time in many years

When amebiasis was first discovered in this patient the stools of her husband (case 3) were checked and were also highly positive for E. histolytica He had felt unaccountably fatigued for years but had no definite gastrointestinal symptoms His stools were as persistently positive as hers in spite of treatment identical to hers On April 18 he also was given aureomycin (0.25 Gm.) every four hours for twenty eight doses On May 16 his stools were negative and he considered himself entirely well His pronounced fatigue had disappeared

SUMMARY

1 Thirty-eight patients with amebiasis were treated in private practice each patient receiving twenty-eight capsules of aureomycin (0 25 Gm) over a period of four to seven days

2 Practically all patients in this series had had repeated ineffective courses of carbarsone diiodohydroxyquinoline (diodoquin[3]) and iodochlorohydroxy-

quinoline (vioform®), a few had failed to be cured by emetine hydrochloride and chiniofon Hence, this group treated with aureomycin was comprised of patients difficult to cure It is believed that had previously untreated mild cases been included the percentage of cure would have been higher

3 The two criteria of cure were abolition of symptoms and five negative warm liquid stools examined after saline purgation at least two weeks after the last dose of aureomycin No attempt is made to defend these criteria, which are admittedly not ideal but which, from a practical standpoint, were selected for the purpose of this study In most cases stool tests were made at intervals of two to three months and remained negative

4 Twenty-seven of 38 patients (71 per cent) treated in this manner were "cured"

5 Practically all patients in this series, even those who returned with *positive stools*, reported great relief of their symptoms, and many of the latter could hardly believe that they still harbored the parasite

6 The use of aureomycin in amebiasis is so new that optimum dosage schedules have not yet been established It is advised that in the treatment of amebiasis with this drug larger doses be tried over a longer period of time

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CARBON MONOXIDE ANOXIA

Intravenous Administration of Procaine Hydrochloride in the Treatment of Acute and Chronic Effects

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Anoxia due to carbon monoxide poisoning incurred other than in attempted suicide is more common than is generally known In Los Angeles County, during the last three years (1947-1949) there were 109 deaths reported in which the exposure to carbon monoxide had been accidental and in a closed room warmed by an open gas heater[1]

During the winter of 1948-1949, 32 persons with carbon monoxide anoxia due to the same type of exposure were admitted to the neuromedical service of the Los Angeles County Hospital A number of these patients gave a history of symptoms indicating multiple previous exposures In none of them had a correct diagnosis been made prior to the acute, severe and more obvious anoxial episode that led to their admission

The initial diagnosis made in the home, emergency room or ward before a history could be obtained was often *incorrect* even in the cases of acute anoxia Among the initial erroneous diagnoses were schizophrenia, hysteria, syncope, food poisoning, epilepsy and expanding intracranial lesions It seems likely, therefore, that many cases of acute and chronic anoxia due to the inhalation of carbon monoxide go unrecognized

Anoxia due to the inhalation of carbon monoxide occurs when this gas has combined with so much of the circulating hemoglobin that an insufficiency of the latter is left free to transport oxygen for cellular respiratory activity In addition there may be an alteration of the oxygen dissociation curve and a lowering of the partial pressure at which oxygen is released to the tissues

Carbon monoxide has an affinity for hemoglobin that is over two hundred times that of oxygen, consequently, the breathing of even low concentraions of the former causes a rapid increase in the blood carboxyhemoglobin level Thus, even in the presence of a normal oxygen content in the inspired air, it is possible to be overcome by carbon monoxide In every instance in the cases to be reported an open gas flame was burning in the room where the patient was found A 15 per cent concentration of oxygen is required to burn the natural gas used, and as an 8 per cent concentration of oxygen is sufficient to maintain life, the additional factor of anoxia due to lack of oxygen in the air was not present[2]

The treatment of acute anoxemia produced by carbon monoxide consists of removal of the patient from the contaminated atmosphere, the utilization of artificial respiration when indicated, the administration of an oxygen–carbon dioxide mixture (carbogen), the application of heat when necessary for warmth and the judicious use of respiratory stimulants The giving of opiates or barbiturates is contraindicated if signs of respiratory depression are present[2d]

Carboxyhemoglobin usually disappears from the blood within the first twelve to twenty-four hours after the patient has ceased to breathe any carbon monoxide, yet the symptoms persist and often progress Therefore, except in the first few hours following the acute exposure, the therapeutic problem is to combat the residual and reversible effects on the central nervous system of the anoxia and not necessarily to remove the circulating carboxyhemoglobin It is generally several hours before the patient reaches a hospital, usually by that time the blood carboxyhemoglobin level has fallen to a less dangerous level The blood level of this substance at the time of the admission of the patients to the hospital in the following series of cases was above 35 per cent saturation of the blood hemoglobin in only 2 instances In these 2 patients the level was 55 per cent

Microscopic studies have demonstrated that the pathologic changes in carbon monoxide anoxia are often centered around blood vessels Though lesions are found in other portions of the central nervous system, the most frequent finding when the basal ganglions are effected is bilateral softening of the anteromedial portion of the globus pallidus This area receives its only blood supply through the long, slender anterior choroidal artery The correspondence of the damaged area involved with the distribution of the branches of an artery also suggests that a vascular disturbance is an etiologic agent In the blood vessels of animals subjected to anoxia there is first a transitory

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[1] Communication from the office of the coroner, County of Los Angeles

[2] (*a*) Henderson, Y The Dangers of Carbon Monoxide Poisoning and Measures to Lessen These Dangers, J A M A **94** 179 (Jan 18) 1930 (*b*) Goodman, L, and Gilman, A The Pharmacological Basis of Therapeutics, New York, The Macmillan Company, 1943 (*c*) Best, C H and Taylor, N B The Physiological Basis of Medical Practice Baltimore Williams & Wilkins Company 1945 (*d*) Drinker, C K Carbon Monoxide Asphyxia, New York, Oxford University Press, 1938, pp 3 22

vasoconstriction, followed by dilatation The persistent vasodilatation has been reported by many observers and is a prominent finding at autopsy The occasional case of carbon monoxide anoxia in which the clinical picture alternately improves and becomes worse shows that there is a period of fluctuation, during this period the process is reversible The exacerbations and remissions in such cases may be due to a reversible vascular disturbance [3]

Justin-Besancon and Laroche used procaine hydrochloride intravenously in the treatment of prolonged coma due to carbon monoxide anoxia and reported startling improvement in a few cases [4] As the treatment of this type of anoxia had been heretofore unsatisfactory, Dr C W Olsen of the neuromedical attending staff, suggested that a trial be made of this medication [5]

During the winter of 1948-1949 the 33 patients affected by carbon monoxide anoxia (1 a patient who had attempted suicide using automobile exhaust)[6] who were admitted to the neuromedical service of this hospital were carefully studied to determine whether rapid spontaneous recovery seemed likely Nine of these patients made an early recovery and did not appear to need treatment One refused treatment The other 23 were given procaine hydrochloride intravenously Because of the varied degrees of exposure it was impossible to establish controls except on two occasions in which 2 persons had been exposed together However some conclusions as to the efficacy of the treatment could be made as there were a sufficient number of instances in which there was a pronounced improvement in the clinical status within a few minutes to an hour after treatment

SELECTION OF CASES AND METHOD OF TREATMENT

In every case but one reported here, there was a history of loss of consciousness in a room in which there was no ventilation and where an open gas flame was burning The gas used in this locality for heating does not contain carbon monoxide, this substance is produced only when there is incomplete combustion In every instance in which the blood was examined within eight hours after the patient had been rescued—carboxyhemoglobin was found No patient received procaine intravenously unless abnormalities were found during the neurologic examination or in the evaluation of the mental status

The usual dose of procaine hydrochloride was 500 mg thoroughly mixed with 500 cc of 5 per cent dextrose either in water or in isotonic sodium chloride solution This solution was given intravenously in a period of about two hours In a few instances 100 mg as a 1 per cent solution was given intravenously in about five minutes A skin test for sensitivity to procaine was made before the intravenous injection If the patient was conscious and there was no respiratory depression, an injection of 2 grains (0 13 Gm) of phenobarbital sodium was given intramuscularly Epinephrine was never given with procaine hydrochloride, as ill effects have reportedly followed the simultaneous use of these two substances intravenously

Treatment with Intravenous Administration of Procaine Hydrochloride

Case	(A) Acute or (C) Chronic Exposure	Sex	Age	Hours Exposed Acute Episode	Time After Exposure Procaine Started	Days in Hospital	Result
1	A and C	F	35	4	4 hr	4	Gradual recovery
3	A	F	[illegible]	12	[illegible] wk		Chronic psychosis
4	A	M	75	4	24 hr	4	Well
5	A	F	60+		[illegible]	[illegible]	Well
6	A	M	78		5 hr	[illegible]	Easily tired
11	A	F	34	28	14 hr	4	Well
12	A	F	65	5	2 hr	4	Well
13	A	M	72	5	1½ hr		Well
14	A and C	F	[illegible]0	48	1½ hr		Died in one month of bronchopneumonia
15	A and C	M	69	24	[illegible] days		Died in [illegible] days previous cerebral thrombosis
19	A	F	57	12	1½ days		Well
20	A and C	M	[illegible]		4½ hr		Died in 3 days
21	A	F	61	3½	2½ hr	4	Well
22	A	M	27	36	10½ hr	[illegible]	Well
24	A and C	F	70	10 to 12	2 hr (?)		Well
25	A	F	[illegible]8	10 to 12	4 hr		Asymptomatic in 8 hours
	(Exposed with patient in case 24)						
26	A	M	2[illegible]	13	12 hr	[illegible]	Well
27	A	F	14	7½	[illegible] hr		Well
28	A	M	72	4 to 6	6 wk		Died
	(Associated head injury and neurosurgical procedure)						
30	A and C	F	7[illegible]	4	20 hr	4	Well
[illegible]1	A and C	F	[illegible]	4	20 hr	4	Well
[illegible]	A	F	46	12 (?)	5 wk	[illegible] wk	Minimal residue
3[illegible]	A	M	[illegible]		[illegible] day		Well

Other treatment, such as intramuscular administration of penicillin use of oxygen or intravenous injection of fluid was given as indicated

CASE SUMMARIES

The following cases or pairs of cases demonstrated the effects of intravenous administration of procaine hydrochloride The treatment was always begun several hours or more after the patient had ceased to breathe carbon monoxide and when it was evident that rapid spontaneous recovery was not taking place

Case 26—*Decerebrate state following prolonged exposure to carbon monoxide Recovery in five days*—The patient was a 28 year old man who ignited the heater in a closed room about 9 p m on the day prior to his admission to this hospital At about 10 p m the neighbor below heard him fall however no investigation was made until twelve hours later when he was found unconscious on the floor

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[3] Courville C B Pathology of the Central Nervous System Mountain View Calif Pacific Press Publishing Association 1945 Blackwood W Dodd T C and Sommerville J C Atlas of Neuropathology Baltimore, Williams & Wilkins Company 1949 Cobb S Cerebral Circulation Critical Discussion of Symposium A Research Nerv & Ment. Dis Proc (1937) **18**: 719 1938 Semerak C B and Bacon L H Experimental Lesions of the Brain from Carbon Monoxide Arch Path **10** 823 (Dec.) 1930 Klebs E Ueber die Wirkung des Kohlenoxyd auf den Tierischen Organismus Virchows Arch f Path Anat **32** 450 1865 cited by Semerak C B and Bacon L H Experimental Lesions of the Brain From Carbon Monoxide Arch Path **10**: 823 839 (Dec) 1930

[4] Justin Besancon L and Laroche C Intravenous Injection of Novocain During Prolonged Coma Due to Carbon Monoxide Bull et mem Soc. méd d hop de Paris **59** 431 (Nov 26) 1943 cited in abstract no 58 in Novocain Intravenous Administration Annotated Bibliography of Clinical Applications New York Winthrop Chemical Co Inc June 1947

[5] Olsen C W and others Intravenous Procaine Hydrochloride in the Treatment of Asphyxia Due to Carbon Monoxide Bull Los Angeles Neurol Soc **14**: 23 31 (March) 1949

[6] It seemed probable that the other patients were exposed to a relatively low concentration of carbon monoxide gas and that the type of response might have been different from that observed in other localities High concentrations of blood carboxyhemoglobin may be attained even though the atmospheric concentration of carbon monoxide is low but the attainment of the high blood concentration would take a longer period than if the atmospheric concentration of carbon monoxide were high If the anoxia were not immediately overwhelming it is conceivable that some partial adaptation might be made

Four hours later, when he was brought to this hospital, the patient was deeply unconscious and unresponsive to pain, and there were momentary extensor spasms of both arms and legs every thirty to forty seconds His pupils were large and equal and reacted to light, he was salivating excessively, and his teeth were firmly clenched Fascicular muscle twitchings were seen over the entire body, particularly in the pectoral region All the extremities were spastic in extension, the hands were inverted and the deep reflexes were hyperactive Ankle clonus and bilateral Babinski signs were found Moist tracheal and bronchial rales were noted

About eight hours after his hospitalization he was in the same condition The details of his illness were finally obtained and the correct diagnosis made The blood carboxyhemoglobin level at that time was *normal* Five hundred milligrams of procaine hydrochloride in 500 cc of 5 per cent dextrose was given intravenously After receiving 100 cc *of this solution* he yawned and responded to name by opening his eyes Later that night the dose was repeated The following day the patient was conscious but still rigid in extension, the procaine was given again and daily thereafter On the third day he was emotionally labile and reacted in a manner resembling that of a patient with pseudobulbar palsy, the fourth day he was alert, felt well and acted normally

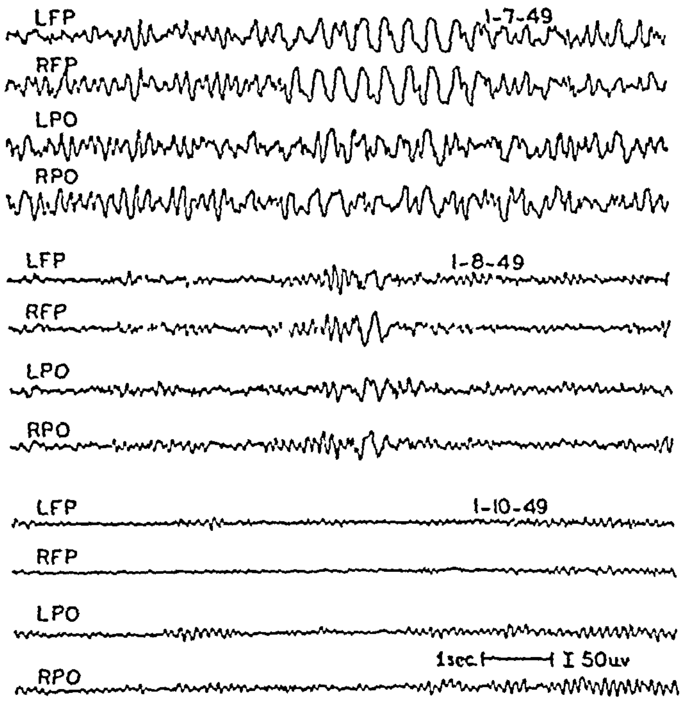

Fig 1 (case 11) —Electroencephalogram, Jan 7 1949, taken before *intravenous* procaine therapy showed a marked diffuse abnormality characterized by very slow waves of high voltage This abnormality was most marked in the frontoparietal leads Jan 8, 1949, after treatment pattern showed definite improvement however some of the abnormalities were occasionally present Jan 10 1949 pattern was normal

An electroencephalogram taken the second day showed short runs of 5 per second waves of 70 microvolt amplitude in all leads On the fifth day he was discharged, without residual complaints or physical findings The electroencephalogram, however, showed slight abnormalities, there being short runs of 7 to 8 per second waves of 60 microvolt amplitude

CASE 4 —*Aphasia following exposure in a closed room with a burning gas heater Improvement in a few minutes after institution of intravenous administration of procaine hydrochloride* —The patient was a 75 year old man who had always been alert and in good health On the day of his hospitalization he lit the open gas heater in his room at 7 a m, and closed the windows At 9 a m he awoke feeling ill, however, he dressed but felt too sick to go out Two hours later he was found unconscious

Three hours after he was found he was admitted to the hospital When asked questions he said, "Just a minute and I'll tell you" He was unable to name objects, and after a short sentence he would lapse into jargon with considerable perseveration He was given 2 grains (0 13 Gm) of phenobarbital sodium intramuscularly, and then 500 mg of procaine in 500 cc of 5 per cent dextrose was started intravenously After getting 20 cc of this mixture he correctly recalled a clinic appointment at the hospital for that day, and in about fifteen minutes more he was able to give the history of his illness

At the time of his admission the examination revealed no abnormalities other than the aphasia and a blood carboxyhemoglobin level of 12 per cent The electroencephalogram showed 4 to 10 per second waves of 40 to 125 microvolt amplitude The day after treatment the electroencephalogram revealed abnormal activity only from the left hemisphere After three days of treatment his electroencephalogram was considered normal

CASE 11 —*Schizophrenic reaction following carbon monoxide exposure The mental and electroencephalographic abnormalities disappeared after intravenous administration of procaine* —The patient was a 34 year old woman who entered the hospital in a confused, withdrawn state Two physicians concurred in a diagnosis of schizophrenia

The following details of her illness were not obtained until the next morning The evening prior to entry she had complained of a headache and as a result had gone to bed early Twenty-two hours later she was found unconscious in a closed room in which a gas stove was burning Emergency treatment, including the use of oxygen and intravenous injections of nikethamide and caffeine sodium benzoate, was given before she was sent to this hospital

At the time of her admission here she was stuporous and uncommunicative The right *pupil* was larger than the left, but both were round and reacted well to light Bilateral pathologic toe reflexes were elicited The morning after her admission she was still confused and disorientated Her memory was poor, calculation was impaired and she was slow to respond to commands A blood test for carboxyhemoglobin taken at this time was reported as showing a normal level

An *electroencephalogram* (fig 1) *was then* taken There were slow high voltage waves in all leads, and the abnormality was *most* marked *in the frontal region* She was given 500 mg of procaine hydrochloride in 500 cc of 5 per cent dextrose in water intravenously An electroencephalogram (fig 1) taken the day *following treatment* showed definite improvement, but short runs of slow waves were still present However, the voltage was lower and the abnormal activity was more intermittent than it had been the *previous* day She was given procaine intravenously daily for the next two days An electroencephalogram (fig 1) recorded on the last day of treatment showed normal voltage and normal activity

CASES 12 AND 13 —*Catatonic states following exposure to carbon monoxide Rapid recovery The patient in case 13, who was treated first, improved first The clinical status of the patient in case 12 remained unchanged until treatment was given* —Cases 12 and 13 involved a man aged 72 and his wife aged 65 who had been exposed for five hours in a closed room with the heater burning Four hours after their removal both were conscious but were resistive, adopted fixed postures, showed signs of spasticity and did not respond when questioned The man, who was treated first, was given 300 mg of procaine hydrochloride in 300 cc of 5 per cent dextrose intravenously during a period of about an hour After the first twenty minutes he was relaxed, orientated and talked spontaneously Treatment of his wife, who had not improved, was started about one half-hour later

She was given 500 mg of procaine in 500 cc of 5 per cent dextrose intravenously After about 100 cc had been given (within fifteen to twenty minutes) she spontaneously began to talk and became less resistive There was a decrease in spasticity She at first did not name *objects* but would reach fo them saying, "I know, I know what it is She remained disorientated for another hour

The man was well the next day but the woman was given intravenous injections of procaine daily for five days before a mild hemiparesis first noted after the disappearance of the general spasticity finally cleared up

CASE 30 —*Repeated mild exposures to carbon monoxide for six months First electroencephalogram recorded twenty five hours after an acute exposure Second recorded five hours later after intravenous administration of procaine showed improvement* —The patient a woman of 73, shared a house with two other women All three had had headaches in the morning during the previous six months Occasionally when their headaches were severe they were also nauseated and the patient, in addition, complained of unusual fatigue Every time the entire group had had a headache the gas heater had been on and they had often neglected to open the windows

The morning of the patient's admission the heater had been turned on at about 6 a m, and the windows were closed Four hours later she and another person who was in the house were found unconscious She remained unconscious for about two hours Physical examination made later in the day did not reveal any abnormalities except mild lethargy and apathy and therefore she was not considered a candidate for treatment However, twenty hours later the lethargy was unchanged she did not remember the events of the previous day and the electroencephalogram was abnormal (fig 2) She was given 500 mg of procaine hydrochloride in 500 cc. of isotonic sodium chloride solution intravenously Because she was conscious this medication was preceded by 2 grains (0 13 Gm.) of phenobarbital sodium intramuscularly Five hours after the treatment she was considerably more alert and the electroencephalogram had improved (fig 2) On each of the next two days she was given the same treatment, and on the fourth hospital day she was discharged The lethargy had disappeared by the second morning but because of the persistence of electroencephalographic abnormalities (fig 2) the treatment was continued The serial electroencephalograms (fig 2) show that the tracings improved but did not become normal until about three weeks later

CASE 32 —*One exposure to carbon monoxide Progressive deterioration during the month following Improvement after intravenous administration of procaine* —The patient was a woman of 46 who had turned on the heater in the morning and several hours later was found unconscious Artificial respiration was given and after this she received oxygen for several hours After two weeks in a hospital she was transferred to a boarding home, where she spent the greater part of her time in bed She did not seem to be able to concentrate and gradually became worse until she was unable to care for herself

Slightly more than a month after the anoxial episode she was admitted to the Los Angeles County Hospital She was lethargic disoriented and retarded in her responses Her occasional answers however revealed no specific language defect There was inattention in the left homonymous visual fields, and a slight facial weakness was noted on the right side Her face was set and expressionless, as in parkinsonism There was a mild spasticity of all extremities She was generally weak however, this weakness was more conspicuous on the right side. There was some atrophy of the right lower extremity and an equivocal Gordon sign was elicited on the right side. The spinal fluid pressure was 200 mm The Pandy test for proteins gave a negative reaction, and there were no cells

The patient was observed for four days, without any improvement being noted in her clinical status On the fourth hospital day an electroencephalogram was recorded which was interpreted as showing a diffuse abnormality of moderate degree

She was given 500 mg of procaine hydrochloride in 500 cc. of isotonic sodium chloride solution intravenously that day and on each of four succeeding days During the first injection she became more alert On the fourth day of treatment she read the newspaper discussed the news and recognized a physician whom she had known some months previously The following day she became ambulatory and continued to improve. The electroencephalogram recorded on the fourth day of treatment showed a slight amount of improvement over the first tracing Three days later she was discharged An electroencephalogram that day showed that the improvement had been maintained

Three months later although she had not completely recovered she had resumed her social activities and served on a club committee. However her friends noticed that she did not say or do much, although she had previously been unusually active

The cases described are those in which the favorable response to the intravenous administration of procaine hydrochloride was convincingly demonstrated However there were other similar cases in which the recovery after treatment was as rapid The table records the summary of the results of the entire study

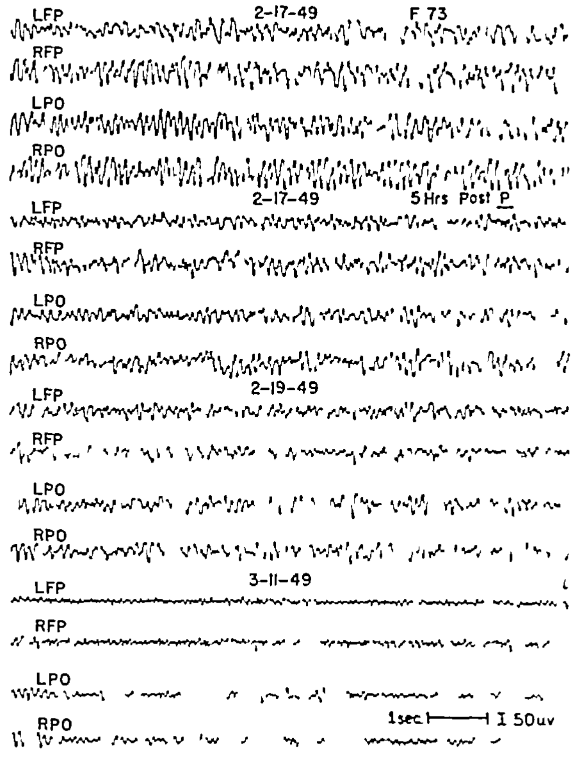

Fig 2 (case 30) —Electroencephalogram Feb 17 1949 taken twenty five hours after exposure and before intravenous procaine therapy showed a diffuse abnormality characterized by slow waves of high voltage Feb 17 1949 (five hours after first electroencephalogram) pattern after treatment showed a marked reduction in the voltage although the record was still abnormal Feb 19 1949 although still abnormal pattern showed improvement March 11 1949 pattern was normal.

COMMENT

In the group of 23 patients who received intravenous injections of procaine hydrochloride there were 17 who made good recoveries and 6 who either died or did not fully recover In the latter group the procaine was given long after the exposure to carbon monoxide or there were additional complicating factors The average age of these 6 (including a 46 year old woman) was 67, they probably were more susceptible to anoxia because of cerebral arteriosclerosis One of these (case 15) was found at autopsy to have had a previous cerebral vascular accident which had destroyed about half of one cerebral hemisphere Another (case 20) was 83 years old and entered the hosiptal in profound shock A third (case 28) was not seen until six weeks after exposure, furthermore, he had undergone a neurosurgical procedure because of a head injury The patient in case 14 had been exposed for forty-eight hours in a room with an open gas flame At postmortem examination there were found in addition to the intracerebral damage a myocardial infarct without coronary occlusion and necrosis of the liver The remaining 2 patients (cases 3 and 32) did not receive their first intravenous injections of procaine until two and five weeks respectively after their exposures to carbon monoxide and by that time irreversible changes in the central nervous system may have developed

In the instances in which 2 persons had been exposed to the same concentration of carbon monoxide the one who had not been previously exposed recovered much more rapidly It would seem that the effects on the central nervous system of periodic episodes of carbon monoxide anoxia may prove to be cumulative and such a possibility should be taken into account in evaluating the result in individual cases

No accurate comparison could be made as to the relative severities of the exposures except in the few instances in which persons had been overcome in the same room The circulatory depression (drop in blood pressure and electrocardiogram changes indicating damage to the myocardium) which naturally added to the anoxia was often of a different degree In some the presence of pulmonary edema also added to the anoxia Age and the presence or absence of arteriosclerosis were also of importance

In this series the so-called typical cherry red color of the skin was not observed though occasionally a patient had a moderately flushed face A number of patients appeared pale In no instance was there evidence of respiratory depression at the time of the admission to the hospital

In this series of cases of carbon monoxide anoxia it appeared that the earlier in the course of the illness that procaine was given intravenously the better the results obtained Five hundred milligrams in 500 cc of solution given intravenously in two hours had a more favorable effect than 100 mg given more rapidly in more concentrated form The hydrating effect of the additional fluid was not a factor, because all patients but two had been without fluid for only a few hours or were well hydrated by the time the first injection of procaine in the 500 cc of fluid was given

There were no serious reactions during the intravenous administration of the aforementioned amounts of procaine In a few instances the rate of injection had to be reduced because of the development of restlessness and muscular twitchings however nothing resembling either a convulsion or an allergic reaction was observed

The exact pathologic physiology that produces the disturbance of structure and function in the central nervous system in carbon monoxide anoxia has not been completely determined, although, as mentioned before, there is considerable evidence that the disturbance interferes with the cerebral circulation[7]

We are not aware of any experimental trial of intravenous administration of procaine hydrochloride in controlled studies on anoxia There are, however a few facts known regarding the action of procaine on blood vessels that may later prove to be applicable in the vasomotor disturbance believed to accompany anoxia states Procaine has been used intravenously to abolish venous spasm that prevents the rapid inflow of transfusions in cases of shock[8] It also has been used with some success in peripheral vascular disease and in cases of anuria thought to be due to vasospasm[9]

Procaine is an analeptic as well as a local anesthetic and may exert part of its action by cerebral stimulation Pentylenetetrazole (metrazol®) and veritol (β-[parahydroxyphenol] isopropylmethylamine), also analeptics, have been used experimentally to hasten the elimination of carbon monoxide

Procaine has little or no cumulative effect and when given intravenously is rapidly hydrolyzed to para-aminobenzoic acid and diethylaminoethanol These inhibit the convulsive action of procaine[10]

Di-isopropyl fluorophosphate (DFP) which produces some effects similar to those of procaine, seems to exert a protective effect against anoxia due to the interruption of the cerebral blood flow L F Heymans, using DFP found that the vasomotor and respiratory centers in the isolated perfused head of a dog could be revived some time after complete interruption of cerebral circulation Otherwise, when the circulation was interrupted for a relatively much shorter interval and this substance was not given these centers could not be revived[11] Both procaine and di-isopropyl fluorophosphate are cerebral stimulants and according to reports act as anticholinesterases[12] Whether their essential effects on the central nervous system in anoxia are similar is not known

SUMMARY

Thirty-three patients affected by carbon monoxide anoxia were studied Twenty-three patients received procaine hydrochloride intravenously because they failed to improve spontaneously within the period of observation Seventeen of these 23 patients made a rapid recovery during or soon after the intravenous injection of procaine Six patients who were treated *long after* exposure or had serious complications failed to recover

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Misunderstandings to be Avoided—A physician, in his relationship with a patient who is under the care of another physician should not give hints relative to the nature and treatment of the patient s disorder, nor should a physician do anything to diminish the trust reposed by the patient in his own physician In embarrassing situations, or whenever there seems to be a possibility of misunderstanding with a colleague, a physician should seek a personal interview with his fellow—Section 1, Chapter III of the PRINCIPLES OF MEDICAL ETHICS of the American Medical Association

BRILL'S DISEASE

I Clinical and Laboratory Diagnosis

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Brill's disease has been defined as a typhus-like illness occurring chiefly among the immigrant populations of the Northeastern coastal cities of the United States[1] In this paper and one which is to follow[2] attention is directed to recent clinical and laboratory studies of Brill's disease which emphasize that (1) the present diagnosistic criteria must be revised (2) the reported incidence of Brill's disease may be expected to increase, (3) Brill's disease may indeed be important in initiating new epidemics of louse-borne typhus and (4) the etiologic agent, isolated from 7 patients is indistinguishable from that of classic epidemic typhus

HISTORY

During an epidemic of typhoid in Mount Sinai Hospital, New York, in 1896 Nathan Brill became convinced of the specificity of the Widal test which had just been described Brill's curiosity was aroused when he observed sporadic cases of an atypical typhoid-like disease in which the Widal reactions were negative By 1898 Brill had collected 17 such cases,[1a] and in 1910 he reported on a total of 255[1b] These cases had several characteristics in common the disease usually occurred in immigrants from Russia or Poland, there was no infectiousness (only in one household did a second case occur), headache, fever and malaise were the prominent symptoms, the most characteristic feature of the disease was a maculopapular rash beginning on the fifth or sixth day, and reactions to Widal tests and blood cultures were negative

Lee in Boston[3] Louria in Brooklyn[4] Ziegel in New York[5] and Lewis in Philadelphia[6] soon reported cases similar to those described by Brill By 1912 Anderson and Goldberger[7] had proved by cross immunity tests in monkeys that Brill's disease was related to the typhus occurring in Mexico

Previous to 1917 it was generally believed that there was only one form of typhus, under this assumption the classic louse-borne disease epidemic in Europe the sporadic cases of Brill's disease in Northeastern coastal cities of the United States the sporadic cases of typhus in the southern part of the United States the sporadic and epidemic varieties of the disease in Mexico and elsewhere were all manifestations of one and the same disease

During the interval between 1917 and 1932 it was clearly established by various investigators[8] that there were two distinct varieties of typhus the first caused by Rickettsia prowazeki the epidemic Old World variety spread from man to man by the body louse and the second caused by Rickettsia mooseri the murine variety characterized as a disease in rats spread from rat to rat by the rat louse and rat flea and occasionally transmitted from rat to man by the rat flea However since Brill's disease could not be attributed either to lice or to rat fleas, this differentiation into louse-borne epidemic typhus and flea-borne murine typhus did not establish the position of Brill's disease as being clearly one form or the other Unfortunately many authors have erroneously used the term Brill's disease to describe cases of murine typhus

In 1934 Zinsser suggested an explanation for the causation of Brill's disease[1c] based on his study of 538 cases reported in Boston and New York during the previous thirty years The salient points in his review were 94 8 per cent of these 538 reported cases of Brill's disease were in persons of foreign birth who had come to the United States from areas of Eastern and Southeastern Europe where typhus had frequently occurred in epidemics Over 90 per cent of the patients were Jewish No connection could be traced between patients, there was no observable domiciliary or occupational relationship There were no 2 cases in the same family A slight seasonal incidence occurred with the largest number of cases appearing in the period April through November

In 1933-1934 Zinsser and Castaneda[9] isolated three strains of typhus rickettsiae from patients with Brill's disease These strains produced a febrile illness in guinea pigs but did not cause the tunica reaction which was believed at that time to be specific for murine

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From the Department of Public Health Bacteriology Harvard University School of Public Health (Drs Murray and Snyder) and the Beth Israel Hospital Boston (Dr Cohen) the Mount Sinai Hospital New York (Drs Baehr and Shwartzman) the Jewish Hospital of Brooklyn (Drs Mandelbaum and Rosenthal) and the Jewish Hospital Philadelphia (Drs Doane and Weiss)

Invaluable assistance in these studies was given by numerous house officers on the medical services of the various hospitals Among those responsible for early diagnosis and work up of cases are Drs Janowitz E Roston R. Cortell and M Pincus of the Mount Sinai Hospital New York Drs G Silver R Lasser and S Farber of the Jewish Hospital Brooklyn Drs Yarrow L Malamut H Farfel and I Cutler of the Jewish Hospital Philadelphia Dr A Mayman of the Jewish Hospital Montreal Canada and Drs E Meilman H Ravin H Hyatt N Lubin and D Kahn of the Beth Israel Hospital Boston Acknowledgment is also made of the excellent technical assistance of Dr J Hoffman Miss A Ofstrock Mrs N Frawley and Miss S Lindgren

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typhus Furthermore, in Zinsser's laboratory Savoor and Velasco[10] found that the three strains failed to persist in mice, thus resembling classic epidemic strains

From these epidemiologic and laboratory data Zinsser developed the following hypothesis Brill's disease represents a recrudescence of an old typhus infection originally acquired in Europe, this implies that the rickettsiae, once acquired, remain latent for many years somewhere in the tissues of infected human beings Cases of Brill's disease, when occurring in louse-infested communities might become the foci of small or large outbreaks of epidemic typhus Thus man, through the medium of those with Brill's disease, might be the reservoir for epidemic typhus rickettsiae, serving to maintain the disease between epidemics, over the centuries

In 1943 Plotz[11] reported that serums from 23 patients with Brill's disease exhibited higher titers in the complement fixation test against epidemic typhus antigen than against murine antigen Mooser and Löffler reported a similar observation in a patient from Switzerland[12] These data have been cited as evidence in support of Zinsser's hypothesis

TABLE 1—*Epidemiologic Data on Patients with Brill's Disease, Early Group**

Case and Sex	Year of Birth	Present Attack: Age at Onset	Present Attack: Date of Onset	Birth place	Place and Date of First Possible Attack of Typhus	Year Immigrated to U S	Present Residence	Occupation
	1899	48	10/14/47	Austria	Austria, 1919	1921	N Y C	Waiter
	1889	59	6/10/48	Russia	Russia, 1918	1923	N Y C	Housewife
7 M	1910	38	9/14/48	Poland	Poland, 1920	1923	N Y C	Furrier
8 M	1928	20	9/28/48	Poland	Buchenwald, Germany, 1945	1947	N Y C	Counterman, restaurant
10 M	1905	41	1/17/49	Russia	Russia, 1915	1922	Phila	Metal worker
14 M	1894	55	4/16/49	Poland	Poland, 1912	1913	Phila	Window cleaning contractor
15 M	1877	72	4/30/49	Russia	None known	1905	Boston	Tailor

* All 7 patients are of Jewish descent

PURPOSES OF THE PRESENT STUDY

Despite the epidemiologic data, the serologic evidence and the reports that the three strains isolated by Zinsser resembled epidemic typhus, the etiologic basis of Brill's disease remained in doubt Some students of rickettsial diseases did not accept Zinsser's hypothesis of recrudescence, believing rather that patients contracted Brill's disease from reservoirs and vectors in their environment other than lice or rat fleas[13] The tunica and temperature reactions of the guinea pig were the principal criteria available to Zinsser and Castaneda for classification of their three types of Brill's disease, evidence has since accumulated to cast doubt on the validity of such comparisons of strains in guinea pigs[14] More satisfactory laboratory methods for differentiation of epidemic from murine typhus have been developed in the years subsequent to the studies by Zinsser, Castaneda, Savoor and Velasco

Finally, there was no evidence to prove that human body lice would actually become infected with typhus by feeding on patients in the febrile stage of Brill's disease, consequently, there was no support for the assertion that patients with Brill's disease might serve as foci of typhus outbreaks in louse-infested communities

The present study was undertaken in 1947 with both clinical and laboratory objectives From the point of view of laboratory investigation the aims were to obtain new strains of the etiologic agent of Brill's disease, to characterize them as conclusively as possible by means of the laboratory procedures recently applied to rickettsial diseases, and to determine whether human body lice became typhus-infected by feeding on patients with Brill's disease

From the clinical point of view there were also important considerations A new potential source of this illness is being widely scattered over the United States with the postwar influx of displaced persons from Europe, many of whom were victims of the typhus epidemics in the notorious concentration camps during World War II The question arises whether the cases of Brill's disease among displaced persons may be recognized and treated promptly by clinicians over the United States who have not had the opportunity to observe patients with either epidemic typhus or Brill's disease In this regard, it is pertinent to note that our present clinical concept of Brill's disease has been developed over the past twenty-five years, during which the diagnosis was based on certain clinical signs and symptoms accompanied with a positive reaction to the Weil-Felix test[15] However, it has become apparent that the Weil-Felix reaction may actually be negative or only doubtfully positive in many proved cases of Brill's disease (tables 4 and 5)[16] Therefore it seems highly probable that the diagnosis of Brill's disease has been erroneously withheld in numerous cases, particularly those in which the clinical picture was in any way atypical, whether mild or fatal The exclusion of such cases from the reports undoubtedly has restricted our concept of the clinical course of Brill's disease Since Brill's disease can now be more accurately diagnosed by the highly specific serologic tests using rickettsial antigens it seemed desirable to undertake a reevaluation of the incidence, distribution and clinical character of Brill's disease Moreover, the administration early in the illness of the new antibiotics aureomycin[17] and chloramphenicol (chloromycetin®)[18] may be expected to alleviate the severity of this sometimes fatal disease

METHOD OF STUDY

It was noted in the foregoing section that more than 90 per cent of the reported cases of Brill's disease occurred in Jewish patients For this reason the present studies were located in hospitals serving communities with large numbers of foreign-born Jews, namely, the Mount Sinai Hospital in New York, the Jewish Hospital in Brooklyn, the Beth Israel Hospital in Boston the Jewish Hospital in Philadelphia and the Jewish Hospital in Montreal, Canada Whenever a patient in one of these five hospitals was tentatively regarded as possibly having Brill's disease, we made the attempt to isolate the etiologic agent from that patient by louse feeding and inoculation of the patient s blood into animals (details to be published elsewhere[2])

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The criteria for making a tentative diagnosis of Brill's disease were (1) a fever of unknown origin occurring in a (2) foreign-born person who had lived at some previous time in an area where typhus occurs in epidemic form who complained of an (3) intense persistent headache and who had a (4) macular or maculopapular rash on the fourth to sixth day of the disease

REPORT OF CASES

This report is based on 14 patients who had Brill s disease as established by both clinical and serologic evidence For convenience in presentation these cases are considered in two separate groups of 7 patients each the early group (studied on the fifth to eighth day of illness) and the late group (4 patients were seen between the ninth and twelfth days of illness while the history in 3 others was indefinite, the clinical and laboratory observations suggesting that they were seen about the ninth days of illness)

Typhus rickettsiae were isolated from each of the 7 patients in the early group but all isolation attempts in the late group were unsuccessful

This report will be confined largely to observations on patients in the early group from whom we isolated rickettsiae In general, the patients in the early group gave more accurate histories and received more complete work-up and follow-up than did the patients in the late group Wherever the observations in the early group conflict with or are supplemented by results in the late group this will be indicated parenthetically in the text and tables

Epidemiologic Data (table 1) —Age Age at the time of onset in the 7 patients in the early group ranged from 20 to 72

Sex Six of the 7 patients were men (When all 14 cases are tabulated, there are 8 men and 6 women In Zinsser's series of 538 cases there were 290 males and 248 females)

Occupation The group comprised 1 waiter 1 housewife 1 furrier 1 counterman in a restaurant 1 metal worker 1 window cleaning contractor and 1 tailor

Nativity All patients were foreign-born Jewish immigrants

Previous Attack of Typhus (table 1) Patient 15 a man aged 72 could never remember having had a typhus-like illness The other 6 patients in the early group gave a history of having had a typhus-like illness while in Europe Probably little significance can be attached to the usual patient s recollection of previous typhus However patient 8 is the exception in 1945 just after his liberation from the Buchenwald concentration camp in Germany where he had been a prisoner for five years he had an illness of fourteen days duration characterized by high fever headache and a rash He was told that this was typhus which was known to be rampant in this camp in the spring of 1945[19] He emigrated to the United States in 1947

Seasonal Incidence Six of the 7 early cases occurred during the seven month period April through November (Twelve of the total of 14 cases occurred during the same seven month period)

TABLE 2—*Principal Clinical Features of Patients with Brill s Disease Early Group*

	Case						
	1	4	7	8	13	14	15
Onset	Sudden	Sudden	Indefinite	Sudden	Indefinite	Sudden	Indefinite
Chills fever and malaise	−	+	+	+	+	+	+
Headache—severity	+++	+++	+++	+++	+++	+++	±
Nausea and vomiting	−	−	−	±	−	+	−
Sore throat	−	−	−	−	−	−	
Diarrhea	−	+	−	−		+	−
Palpable liver	−	++	−	−	−	−	+
Palpable spleen	−	−	±	−	−	−	−
Pulmonary rales	−	+	+	−	−	±	+++
Rash							
Day first noted	6	5	5	4	4	6	4
Distribution*	T A	T A	T A	T	T A Th	T A	T A Th
Character†	M	M P	M P	M P	M	M P	M P
Days present	<6 to ±10	5 to 12	5 to 9	4 to 7	4 to 14	6 to 9	4 to 10
Blood pressure on admission	100/[illegible]	100/60	100/70	110/[illegible]	Not taken	110/60	14[illegible]
Mental apathy or confusion	±	+	+	−	±	++	−
Total days of fever	13 0	11	9	±10 0	10 5	9 0	10 0
Treatment drug‡ and days given	[illegible]	S [illegible] to [illegible] P 4 to 5 PABA 8 to 12	PABA 7 to 9	None	P 2 to 5 and 8 to [illegible] S [illegible] to 4 Aur [illegible] to 14	P 4 to 6 S 5 to 6 Aur 6 to 1[illegible]	P 8 to 10 Chl 7 to 10 Str 8 to 10

* T indicates distribution of rash on trunk A on arm and Th on thigh
† M indicates that rash was macular M P maculopapular
Fatal cases
‡ P denotes penicillin S sulfonamide drug Str streptomycin Aur aureomycin Chl chloramphenicol and PABA para aminobenzoic acid

Clinical Description (table 2) —Onset In patients 1 4 8 and 14 the onset was sudden these patients could remember the exact hour of the day when they first became ill with chills feverishness malaise and the almost immediate appearance of an intractable headache In patients 7 13 and 15 the onset was gradual over the period of a day or two with short intervals of well-being interspersed between episodes of chills feverishness malaise and headache usually a severe chill or a severe paroxysm of headache marked the end of the gradual-onset period and ushered in continuous fever and headache However in the 3 instances in which the onset was gradual the rash appeared on the fourth or fifth day after the first vague symptoms were noted

Headache The headache was the most constant distinguishing symptom Six of the 7 patients in the early group complained bitterly of severe headache The only exception patient 15 a rather senile man aged 72 only casually and occasionally complained of headache (All 7 patients of the late group complained

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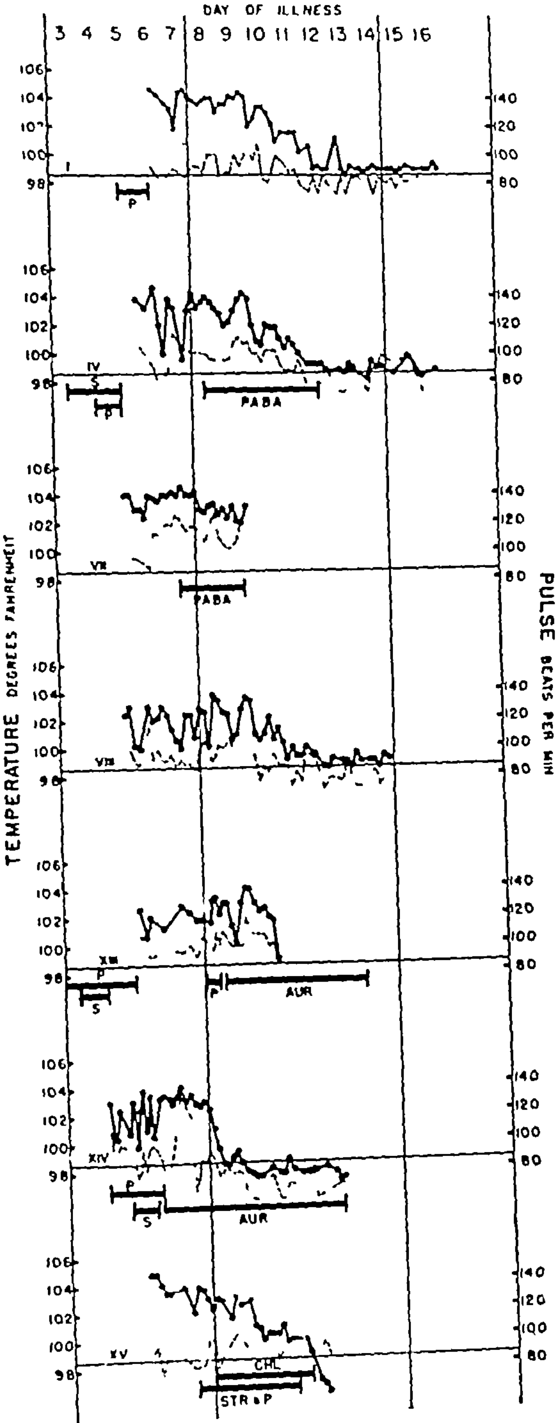
of severe headache) The headache, which was either frontal or general, began early and was intense, persistent and difficult to allay with either drugs or topical applications It usually persisted throughout the entire febrile period unless masked by apathy or mental confusion



This figure shows the temperature curves (heavy line) in degrees Fahrenheit and the pulse rates (dotted line) in beats per minute of the 7 patients in the early group with Brill's disease The heavy bars and symbols beneath the temperature curves indicate the period of illness during which specific treatment was given and the drugs which were administered P indicates penicillin S, sulfonamide drugs, AUR, aureomycin CHL chloramphenicol STR, streptomycin PABA para aminobenzoic acid The temperature of patient 13 reached normal on the eleventh day of illness and remained normal thereafter Patients 7 and 15 died The temperature readings are oral on patient 4 at 8 and 12 p m on the tenth and eleventh days on patient 13 from the fifth through the seventh day and on patient 14 on the fourth fifth and tenth through twelfth days All the remainder of the temperature records represent rectal temperatures

Rash The rash was present in all cases in this study It was described in nearly identical terms in the histories of the 7 patients in the early group even though each history was written by a different physician with no previous agreement as to phraseology It began on the fourth day in 3 cases, the fifth day in 2 cases and the sixth day in 2 cases The earliest manifestations were faint, discrete macules or maculopapules varying in diameter from 1 to 10 mm and fading readily on pressure These first appeared on the anterior portion of the chest near the axillae The eruption then usually extended rapidly to involve most of the trunk, the arms and the thighs The height of the rash was usually reached by the seventh or eighth day The rash in patient 8 was exceptionally scant and evanescent, consisting of a sprinkling on the anterior part of the chest of maculopapules which disappeared by the seventh or eighth day of the disease However, in most cases the macules or maculopapules were numerous and widespread on the trunk and proximal parts of the extremities, later becoming fixed, they finally disappeared as convalescence began

Blood Pressure A low peripheral blood pressure was noted in 5 of the 7 early cases In 1 instance the blood pressure was never recorded, patient 15, who had an admission reading of 142 systolic and 68 diastolic had been receiving treatment for hypertension for over a year, about two weeks before the onset of this illness his blood pressure in his physician's office was 220 systolic and 120 diastolic

Temperature (see the accompanying figure and table 2) (*a*) Duration of Fever From the 7 early cases nothing can be deduced as to number of days of fever ordinarily to be expected in Brill s disease, since 6 of the 7 patients were given different forms of specific therapy with varying results (sulfonamide drugs, para-aminobenzoic acid penicillin, streptomycin, aureomycin and chloramphenicol) However, patient 8, who received no specific therapy, had ten days of fever and patient 1 who was given penicillin for only two days (fifth to seventh days of illness) and no other therapy, had the longest period of fever thirteen days

(*b*) Character of Temperature The variation in the temperature curve from one patient to the other is shown in the illustration Patients 1 7 and 15 (the latter before therapy) had continuous high fevers (temperatures between 102 and 105 F) Patients 4 and 8 had remittent fever with wide fluctuations, between 100 and 104 F Patients 13 and 14 had temperatures which were irregular and moderately elevated, but since readings in the latter 2 cases were partly oral and partly rectal the temperature curves are more difficult to interpret than in the other 5 cases in which almost all of the readings were rectal

Pulse The pulse rate was as variable and unpredictable from one patient to another as was the temperature (see the illustration) In 2 cases, patients 4 and 7 the pulse rate was rapid ranging from 100 to 110 roughly commensurate with the temperature In 2 cases patients 1 and 15, the pulse was relatively slow rates ranging in the 70's, 80's and low 90's, with concomitant temperatures of 102 to 105 F In 3 cases, patients 8 13 and 14, there was only moderate increase in pulse rate with general, though not consistent tendency to follow the temperature

Pulmonary Involvement In 4 cases occasional pulmonary rales were noted In a fifth case there was definite pulmonary congestion particularly on the right side with the roentgen diagnosis of chronic and/or acute tuberculosis Autopsy in this case showed that the pulmonary tuberculosis lesion was healed and not related to the present illness

Other Symptoms and Signs Four patients showed definite confusion, 2 were slightly apathetic, one (patient 8) was mentally clear throughout the course of the disease None of the patients became comatose Patients 8, 13 and 14 complained of vomiting, patients 4 14 and 15 had episodes of diarrhea Patient 1 complained of a sore throat at the onset of the disease Moderate conjunctival injection was described only in patient 7 The liver was palpable in cases 4, 13 and 15 Chest and abdominal pain were complaints of patient 13 Most of these irregularly occurring symptoms and signs were more misleading than helpful in the differential diagnosis

Results of Therapy and Course of Disease It was not the purpose of this study to compare or evaluate the various forms of therapy which were used, as shown in the illustration and table 2 It is impossible to make *valid comments on the effects of specific therapy* in Brill's disease from this study In cases in which para-aminobenzoic acid was used blood levels were not regularly followed and this is believed to be imperative for *the effective use of this drug*[20] Penicillin, sulfonamide compounds, streptomycin and chloramphenicol[18] were used either in combination or for such short periods that nothing can be deduced as to the effect of any one of these drugs The course of the disease in patients 13 and 14, who received aureomycin, suggests that this drug reduces the severity of Brill's disease, as reported by Schoenbach[16a]

In the early group there were 2 deaths, patients 7 and 15 In the late group all patients recovered The mortality in Brill's disease is considered more fully in the comments Autopsy was not performed in case 7 The pertinent autopsy observations in case 15 were typhus encephalitis diffuse interstitial myocarditis, bilateral apical pulmonary scars severe coronary and cerebral arteriosclerosis

LABORATORY DATA

Routine Laboratory Tests—Scrutiny of the reports on routine laboratory tests performed on the 7 patients from the early group reveals one salient fact such tests are of little or no help in the differential diagnosis of Brill's disease

Blood Cultures Blood cultures 15 in number, done on the 7 patients from the early group at various periods during their illnesses failed to exhibit growth of rickettsial organisms on artificial mediums

White Blood Cell Counts The white blood cell counts (table 3) were normal or only slightly elevated except in patients 13 and 15, both of whom had roentgenologic evidence of pneumonitis Fifteen differential counts either were normal or showed only moderate shift to the left with no abnormal forms

Electrocardiograms Electrocardiograms done early in the disease on patients 1, 4, 13 and 15 were interpreted as normal Patient 7 had two electrocardiograms, each showing low voltage particularly in lead 3 with an inverted T wave the interpretation was myocardial damage

Roentgenograms of the Chest In 4 cases roentgenograms of the chest revealed essentially normal conditions Interstitial pneumonitis was reported in a roentgenogram of patient 13, and severe pulmonary congestion with probable bilateral apical tuberculosis was reported in the roentgenogram of the chest of patient 15 (At autopsy, as previously stated it was established that the tuberculous process was old and inactive)

Blood Urea Nitrogen The blood urea nitrogen determination was normal in all 7 patients early in the disease

TABLE 3—*White Blood Cell Counts in Patients with Brill's Disease Early Group*

	Day of Disease										
Case	4	5	6	7	8	9	10	11	12	13	14
1				8,400						[illegible]	
4		11,4[illegible]0							10,1[illegible]0		
7				[illegible],200							
8				[illegible],550			9,700			10[illegible]	
13			12,500		15,000		20,000				9,000
14		9,300									
15	5,800	7,500				1[illegible],500					

TABLE 4—*Serologic Tests* in Patients with Brill's Disease Early Group*

		Complement Fixation		
Case	Day of Disease†	Epidemic Antigen‡	Murine Antigen‡	Weil Felix Proteus OX 19‡
1	7.5	40	20	0
	10	1,280	320	20
	13	2,560	640	20
	17	1,280	640	40
	[illegible]18	80	20	
4	6	40	20	10
	9	1,280	320	10
	12	1,280	160	0
	[illegible]6	320	80	0
7	6	20	10	0
	9	320	160	1,280
8	5.5	10	0	0
	10	640	160	40
	13	1,280	160	40
	16	640	80	[illegible]
	107	80	10	
13	8	2,560	320	0
	12	5,120	640	10
	16	5,120	320	10
	20	2,560	320	20
	62	640	80	0
14	6	0	0	0
	7	20	0	0
	11	1,280	160	0
	14	1,280	320	0
	[illegible]	[illegible]	160	0
15	4.5	0	0	0
		0	0	0
	6	0	0	0
		[illegible]	0	0
		[illegible]	[illegible]	0
	10	1,280	0	40

* Dr J E Smadel scientific director Department of Virus and Rickettsial Diseases Army Medical Department Research and Graduate School and Miss E Jackson furnished the Proteus OX 19 antigen which we used to check our Weil-Felix test results Dr H R Cox director Section of Viral and Rickettsial Research Lederle Laboratories checked results in various complement fixation test

† Figures represent number of days (to closest one half day) elapsed from onset of first symptoms

‡ Values in these columns represent the denominator of the titers as 40 indicates 1 40

Urinalyses Results of urinalysis were normal except for an occasional specimen with a trace of or 1 plus reaction for albumin

Lumbar Punctures Analysis of fluid obtained by lumbar puncture from patients 8 and 15 revealed that it was normal

Special Laboratory Tests—Serologic Tests (tables 4 and 5) Serial blood specimens were taken from each

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20 Snyder J C Yeomans A Clement D H Murray E S Zarafonetis C J D and Tierney N A Further Observations on the Treatment of Typhus Fever with Para Aminobenzoic Acid Ann Int Med 27 1 27 1947

of the patients in both early and late groups Complement fixation tests and Weil-Felix tests were performed on all the samples

(*a*) Complement Fixation Tests All patients had elevated complement fixation titers, higher against epidemic than murine antigen These observations are discussed by Murray and Snyder[2]

(*b*) Weil-Felix Tests There were 4 patients whose serums did not agglutinate Proteus OX 19 organisms at any time, 6 other patients who recovered had low titers at some time during the disease, ranging from 1 10 to 1 40 In patient 7 a titer of 1 1 280 had developed by the ninth day, when he died Patient 15 had a titer of 1 40 on the tenth day the day of death Serums of patients 9 and 11 had maximum titers of 1 320 and 1 160 respectively In most laboratories 1 160 is the lowest titer generally agreed on as diagnostic, on this basis only 3 of the 14 patients had a diagnostic agglutination titer in the Weil-Felix test

TABLE 5—*Serologic Tests on Patients with Brill's Disease, Late Group*

Case	Day of Disease*	Complement Fixation: Epidemic Antigen†	Complement Fixation: Murine Antigen†	Weil-Felix, Proteus OX 19†
2	10	320	160	0
	12	2,560	640	20
	14	1,280	640	0
	16	1,280	20	0
[illegible]	10 5	5,120	1,280	0
	14	5,120	2,560	0
	17	2,560	1,280	0
[illegible]	7 5	160	40	0
	9	640	80	0
	14	1,280	20	10
	17	1,280	160	0
	22	320	80	0
	40	320	80	0
6	0	640	160	
	1	1,280	640	0
	17	1,280	20	0
	21	640	20	0
9	8	160	20	0
	12	1,280	160	20
	15	1,280	160	160
	18	1,280	80	20
	21	1,280	80	160
10	8	160	20	0
	14	1,280	20	0
11 ‡	1	1,280	80	160
	± 1	640	80	80

* Figures represent number of days (to closest one half day) elapsed from onset of first symptoms The date of onset could not be accurately ascertained for patients 6 9 and 10

† Values in these columns represent the denominators of the serum titers

‡ Clinical material of Dr D I Mendel Jewish Hospital Montreal Canada

ISOLATION OF ETIOLOGIC AGENT

The methods employed in isolation of the etiologic agent and the details of results obtained are recorded in the paper by Murray and Snyder[2] The results are briefly summarized in table 6

In the 7 late cases rickettsiae were not demonstrated by any method In the 7 early cases rickettsiae were isolated by the louse-feeding method in all 7 attempts, however, only with considerable difficulty was evidence obtained for the presence of rickettsiae in blood specimens from 4 of the 7 patients in the early group by the inoculation of the patients' blood into animals

CHARACTERIZATION OF STRAINS

The details of characterization of strains are considered in the article by Murray and Snyder[2] In summary, all seven of Brill's strains were clearly of the classic epidemic type

COMMENT

Clinical Diagnosis—There are few signs or symptoms of sufficient constancy to be useful in the diagnosis of Brill's disease (recrudescent epidemic typhus) Nonetheless, in the five Jewish hospitals in which this study was conducted, the clinical diagnosis was made with surprising accuracy of 14 patients clinically suspected of having Brill's disease, 7 were subsequently proved to have the disease by the isolation of rickettsiae, and all 14 gave conclusive serologic evidence[21]

By use of the four criteria enumerated in the preceding section on Method of Study, we believe that Brill's disease can be diagnosed more frequently in the United States than it is at present This belief is supported by our experience in one of the hospitals in our study Although no cases of Brill's disease had been reported in this hospital for thirty years previous to 1948, after the staff physicians were alerted to the four diagnostic criteria listed in the foregoing section, they recognized 3 cases of Brill's disease (patients 5, 13 and 14) between June 1948 and June 1949

On the other hand, Brill's disease is well known in the Jewish Hospitals of New York and Boston, where the staffs are traditionally on the alert for cases In fact, in several instances the diagnosis was made by the junior intern in the outpatient admitting room, thus making it possible to start our rickettsial isolation attempts almost immediately after the patient's admission

The only observation in addition to the four criteria already stated which may be helpful in clinical diagnosis of recrudescent epidemic typhus is the lowered peripheral blood pressure which seems to occur uniformly Practically all other symptoms and signs are more often misleading than helpful in the differential diagnosis Good examples of misleading variability in observations

TABLE 6—*Isolation of Typhus Rickettsiae from Patients with Brill's Disease Early Group**

Case	Day of Disease When Strain Isolation Attempt Began†	Rickettsiae Isolated by Feeding Human Body Lice on the Patient‡	Rickettsiae Demonstrated by Inoculating Patient's Blood Into: Cotton Rats‡	Rickettsiae Demonstrated by Inoculating Patient's Blood Into: Guinea Pigs‡
1	7 5	+	—	—
4	6 0	+	+	—
7	6 0	+	+	+
8	5 5	+	—	—
13	8 0	+	—	—
14	7 0	+	+	—
15	4 5	+	+	+

* In contrast to the results obtained with the early group as shown in this table, all louse feeding and blood inoculation attempts were unsuccessful in the late group

† Figures represent number of days (to closest one-half day) elapsed from hour of onset of first symptoms

‡ The details of the isolation procedures are described by Murray and Snyder[2] Plus sign (+) indicates that definite evidence was obtained for presence of R prowazeki in the specimen the minus sign (—) indicates an unsuccessful attempt

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[21] On one occasion we undertook laboratory studies on a patient with a rickettsial like rash but this patient was never clinically suspected of having Brill's disease because he was born in America and did not complain of a headache at any time the final clinical diagnosis in this case was fever of unknown origin

are the pulse rate and temperature. The temperature may be continuously high as in epidemic typhus, may be irregularly elevated or may fluctuate widely, simulating typhoid or some septic condition. The pulse rate may be elevated and commensurate with the temperature, which is expected in the second week of epidemic typhus, or may be slow or normal, simulating the bradycardia so often noted in typhoid. It is also pertinent to call attention to the bizarre and misleading gastrointestinal symptoms and pulmonary signs of patients 4, 13 and 15. On admission these 3 patients were thought to have gastrointestinal or pulmonary disease. Fortunately, the medical staff noted that each of these patients also satisfied the four cardinal criteria of Brill's disease, otherwise they might not have been included in this study.

Since many of the patients with Brill's disease receive sulfonamide drugs during the first few days of illness, the rash may be mistaken for a sulfonamide rash. However, the fine macular or maculopapular character of the rash, its distribution on the trunk and proximal parts of the extremities and the fact that the macules when they first appear fade on pressure differentiate this rash from the usual sulfonamide rash.

The clinical suspicion of Brill's disease arrived at by use of the four diagnostic criteria listed in the foregoing section has been confirmed 14 out of 14 times by our laboratory studies. Obviously in obtaining such a high correlation between clinical suspicion and positive laboratory diagnosis chance has favored us, but even considering chance as a factor, one may reasonably conclude that although these four cardinal criteria seem fairly nonspecific when taken separately, nevertheless in combination they have formed a useful diagnostic index for recognizing cases of Brill's disease in the hospitals where our study was conducted.

Laboratory Diagnosis Using the Weil-Felix Test.—We have already noted that the Weil-Felix test has been the routine serologic procedure for confirmation of the clinical diagnosis of Brill's disease. From our study it seems likely that this test in the majority of cases is more apt to be misleading than helpful. In only 3 of our 14 cases was the reaction to the Weil-Felix test of diagnostic titer (at least 1:160) by the tenth day of the disease, in 4 cases it remained negative throughout the entire course of the disease; altogether, in 11 of the 14 cases it never rose above 1:40. In view of the fact that epidemic rickettsiae and Proteus OX 19 organisms have been shown to have a common antigen[22] the discrepancy between results of the Weil-Felix and complement fixation tests in our 14 cases of Brill's disease is intriguing. In contrast to results in Brill's disease, in more than 95 per cent of the cases of classic epidemic typhus in Europe and the Middle East Weil-Felix reactions in titers of 1:200 or higher developed at some time during the disease.[23]

Others have noted negative or low titer reactions to Weil-Felix tests in Brill's disease. Brill himself[24] is quoted in 1928 as being disappointed in the Weil-Felix reaction, stating that "the serum of Brill's disease patients seldom gives reactions in dilutions sufficiently high to be of diagnostic aid." Blatteis,[25] reporting 138 cases of Brill's disease occurring in the Jewish Hospital in Brooklyn between 1913 and 1928 performed Weil-Felix tests in 45 instances. The reaction was positive in 2 cases, doubtful in 3 cases and negative in 40 cases.

Schoenbach[16a] noted a completely negative Weil-Felix reaction in his case from Baltimore in 1948; he further stated that on several other occasions he had found no agglutinins for Proteus OX 19 in serum from patients with Brill's disease although the results of the more specific complement fixation test had been positive. However, Morgan, Neva, Fahey and Finland,[26] reporting 2 cases of serologically proved Brill's disease in Irish emigrants from Galway, noted Weil-Felix titers of 1:2,560 and 1:512. Smadel and Gauld[16c] found a low mean titer of agglutination of Proteus OX 19 in their recent studies of patients with Brill's disease.

It is clear that the complement fixation or rickettsial agglutination tests are the only reliable serologic diagnostic tests for Brill's disease.

Severity.—The statement has crept into the literature and has been passed on from decade to decade that Brill's disease is a mild form of typhus. This statement probably is erroneous. Six of our 7 early cases (case 8 excepted) would be classified as "moderately severe" or "very severe," according to the criteria applied to the cases of typhus during the epidemics in Egypt and Europe in 1943-1945.[20] The interns writing the admission physical examination described these 6 patients as "acutely ill," "toxic" or "extremely toxic."

One of us (G. B.) has personally seen more than 100 cases of Brill's disease in New York City over the past thirty-five years and can compare these cases with the cases of louse-borne epidemic typhus he saw in Serbia during World War I. In his opinion most of the patients with Brill's disease are exceedingly ill.

Mortality.—The descriptions of Brill's disease uniformly state that the mortality from this illness is low. We regard this statement as probably correct. In support of a low mortality, the records of the Mount Sinai Hospital show that there were 130 cases of Brill's disease with 2 deaths between 1928 and 1948; at the Brooklyn Jewish Hospital there were 109 cases and 4 deaths between 1925 and 1948. The fact that there were 2 deaths in our group of 7 early cases unfortunately is misleading (there were no deaths in the 7 late cases we studied). Furthermore, the sudden convulsive seizure of patient 7, which was followed at once by his death, is not characteristic of the usual manner of typhus death where the patient gradually becomes stuporous and then comatose before succumbing.

However, the fact that low mortality has been considered a traditional characteristic of the disease introduces the possibility of error. For example, when patient 7 died *ipso facto* the diagnosis of Brill's disease became a matter of dispute among the clinicians who had attended him, even though previous to his death they had agreed unanimously that his illness was typical of Brill's disease. If his reaction to the Weil-Felix test had been negative at the time of his death in ordinary circumstances he might not have been included in the Brill's disease statistics In the case of patient 15, the attending physicians seriously questioned the diagnosis of Brill's disease owing to confusion over the significance of his pulmonary lesions and his lack of a continuous or severe headache This case probably would have been excluded from the mortality statistics in view of the negative reaction to the Weil-Felix test and atypical course, including death, had we not obtained conclusive diagnostic evidence of Brill's disease by complement fixation tests and by isolation of rickettsiae from his blood

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[22] Castaneda, M. R.: The Antigenic Relationship Between Proteus X 19 and Typhus Rickettsia: II. A Study of the Common Antigenic Factor, J. Exper. Med. **60**: 119-125, 1934.

[23] Malcomson, M. E., and Wishart, F. O.: Studies of the Serology of Typhus Fever, Canad. J. Pub. Health **37**: 461-466, 1946. Downie, A. W.: Laboratory Diagnosis of Typhus, Pub. Health **59**: 64-65, 1946. Zarafonetis, C. J. D.: To be published.

[24] Brill, N. E., cited by Blatteis[25] p. 1105.

[25] Blatteis, S. R.: Endemic Typhus Fever (Brill's Disease): A Report of One Hundred and Thirty Eight Cases, M. Clin. North America **2**: 1099-1108, 1928.

[26] Morgan, H. R.; Neva, F. A.; Fahey, R. J., and Finland, M.: Report of Two Serologically Proved Cases of Typhus Fever in Irish Born Residents of Boston, New England J. Med. **238**: 871-873, 1948.

Incidence —The probable incidence of Brill's disease cannot be estimated with any reasonable certainty from our study In the large epidemics of typhus about which adequate statistics are available mild cases with no evidence of rash are cited as forming 10 to 15 per cent of the total sometimes absence of headache has also been recorded By contrast every patient in our series had a rash indeed, the clinician would hardly suspect Brill's disease if the patient had no rash and no headache Hence, it is entirely possible that in the United States and elsewhere mild cases of Brill's disease without a rash are being overlooked This point could be decided only if numerous complement fixation tests were performed on foreign-born patients with mild febrile illnesses

The possibility of a new source of Brill's disease in this country is suggested by patient 8, who almost certainly had classic epidemic typhus in the Buchenwald concentration camp in 1945 Many displaced persons now coming to the United States from Europe had epidemic typhus in German concentration camps[10] Many of them resided previously in areas of Europe where they might have had the disease in early life The important point is that these displaced persons are finding homes in areas of the United States where Brill's disease has never before been suspected

Implications of the Louse-Feeding Experiments —Our results, described more fully by Murray and Snyder[2] clearly indicate that patients with Brill's disease can infect an appreciable percentage of the human body lice feeding on them in the first week of the illness The fact that our seven strains are indistinguishable from those of classic epidemic typhus further emphasizes the potential role of Brill's disease in the initiation of new outbreaks of typhus If our 7 patients from the early group had been living in louse-infested environments, they might have served as the originators of typhus outbreaks

SUMMARY

Observations on 14 cases of Brill's disease are reported, with the following conclusions

1 The clinical diagnosis of Brill's disease should be made when *(a)* a fever of unknown origin occurs in a *(b)* foreign-born person who has lived at some previous time in an area where typhus occurs in epidemic form who complains of an *(c)* intense, persistent headache and who displays a *(d)* macular or maculopapular rash on the fourth to the sixth day of the disease

2 The laboratory confirmation of the clinical diagnosis should be made by the complement fixation test (or the rickettsial agglutination test) The Weil-Felix reaction, if negative, should be completely ignored

3 Use of these diagnostic criteria by physicians should result in recognition of more cases of Brill's disease, particularly among the displaced persons coming to the United States from Europe

4 Patients with Brill's disease can infect human body lice with typhus rickettsiae This strongly suggests that patients with Brill's disease, if residing in louse-infested communities could initiate epidemics of typhus

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Clinical Notes, Suggestions and New Instruments

THROMBOPENIC PURPURA DUE TO BISMUTH ARSPHENAMINE SULFONATE (BISMARSEN®)

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and
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Bismuth arsphenamine sulfonate (bismarsen®) was introduced in 1925 primarily for use as an antisyphilitic arsenical compound, to be injected intramuscularly The drug is a brownish yellow powder which is dissolved in a sterile aqueous solution of 0 25 per cent butacaine sulfate (butyn sulfate®), a local anesthetic agent, before being injected intramuscularly into the buttocks The folder included with the package of bismuth arsphenamine sulfonate lists possible reactions related to the cardiovascular system, the liver and kidneys, and contraindications for use in such conditions as anemia, advanced tuberculosis and alcoholism No mention is made of possible drug allergy or blood dyscrasia resulting from its use The recommended dose of the drug in the treatment of syphilis is 0 1 Gm initially, followed by 0.2 Gm given intramuscularly twice weekly for a course of twenty injections This drug also is used in the treatment of dermatoses such as lupus erythematosus and lichen planus In 1940 Falconer and Epstein[1] reported a total of 8 cases in which thrombopenic purpura developed after injections of the various arsenical compounds Three of these cases followed the intramuscular injection of bismuth arsphenamine sulfonate Nausea, headache, chills and purpura developed within twenty-four hours after the third, twenty-ninth and fifty-fourth injection, respectively The only abnormalities of the hemograms were a sharp reduction in the platelet count and a tendency toward an increase in the number of granulocytes All 8 patients recovered In 1942 Englehardt and Bruno[2] reported a case of thrombopenic purpura which they ascribed in the summary to neoarsphenamine and oxophenarsine hydrochloride (mapharsen®) However, in their case report they stated that the bleeding of the gums occurred after the patient received injections of bismuth arsphenamine sulfonate Schwartz and Vonder Heide,[3] in reporting thrombopenic purpura due to oxophenarsine hydrochloride, included bismuth arsphenamine sulfonate with neoarsphenamine, arsphenamine and sulfarsphenamine as arsenical compounds capable of causing the condition Sherman[4] in discussing drug allergy stated that thrombopenia may occur alone or may accompany granulocytopenia as a result of the use of the sulfonamide agents, arsphenamine and other drugs He also stated that thrombopenia caused by drugs usually is manifested by purpura appearing abruptly after prolonged use of the drug The suspected allergic mechanism of these hematologic reactions has not received adequate confirmation

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[1] Falconer, E H, and Epstein, N N Purpura Hemorrhagica Following Neoarsphenamine and Bismarsen Therapy, Arch Int Med **65** 1158 (Jan) 1940

[2] Englehardt, H T and Bruno F E Observations on a Case of Thrombocytopenic Purpura Following Administration of Arsenicals, Urol & Cutan Rev **46** 654 (Oct) 1942

[3] Schwartz, M and Vonder Heide E C Thrombocytopenic Purpura Due to Mapharsen (Oxophenarsine HCl—USP) J A M A **128** 9 (June 30) 1945

[4] Sherman W B Drug Allergy J A M A **140** 5 (June 4) 1949

REPORT OF CASE

Mrs H B H, born in 1904, was examined in August 1941 because of a persistent pruritic eruption of seven years duration This consisted of shiny, flat, purplish red, angular lesions scattered over the sides of the feet, ankles and thighs and was typical of lichen planus The serologic reaction for syphilis was negative She was given weekly intramuscular injections of 0 1 Gm bismuth arsphenamine sulfonate for fifteen weeks at which time the eruption and symptoms had disappeared entirely The patient was not seen again until March 7 1949, when she returned with a two months recurrence of the lesions of lichen planus on the dorsum of both feet and the anterior surface of both knees She was treated that same day with low voltage roentgen radiation to the knees and ankles and an intramuscular injection of 0 1 Gm bismuth arsphenamine sulfonate There was no reaction to this injection On March 14, 1949 a second injection of 0 1 Gm of the drug was given The next morning she telephoned to report headache, nausea severe bleeding from the gums and scattered red spots on the arms and legs She was admitted to the hospital the same day She denied having used any other drugs There was no past history or family history of blood dyscrasias She had borne six children, and had suffered no miscarriages Hysterectomy had been performed in 1947

Physical examination revealed a well nourished woman 44 years of age weighing 132 pounds (59 9 Kg) The temperature was 97 4 F, the pulse rate 70 per minute and the respiratory rate 20 per minute The blood pressure was 160 systolic and 80 diastolic. There was severe bleeding from the gums, and many petechiae and large and small purpuric spots were distributed generally over the body The liver spleen and lymph nodes were not palpable There was no other physical abnormality

Examination of the blood on admission revealed hemoglobin 13 Gm (Haden-Hauser) red blood cells 4 900 000 leukocytes 6,950, with 79 per cent neutrophils 16 per cent eosinophils and 5 per cent lymphocytes platelets 36 000 coagulation time five minutes bleeding time twenty-seven minutes type A Rh-negative, and prothrombin time 88 per cent of normal The urine was normal except for an occasional red blood cell

Treatment was started at once with the transfusion of 250 cc. of type A, Rh-negative fresh blood. There was a mild reaction with fever (102 F), which subsided within a few hours BAL (2-3 dimercaptopropanol) 150 mg was injected intramuscularly every three hours for six doses and 200 mg pyridoxine hydrochloride 500 mg ascorbic acid and 10 mg vitamin K were given intravenously There was no further bleeding nor were new purpuric spots observed The next day March 16, the leukocyte count was 6,900, with 56 per cent neutrophils, 3 per cent eosinophils 35 per cent small lymphocytes and 6 per cent monocytes the platelets numbered 36,000 On March 17 the platelet count was 64 000 on March 18, 92,000 and two months later 196,000 The course was afebrile and convalescence uneventful Bismuth subsalicylate in oil was subsequently administered intramuscularly as therapeutic care for the lichen planus of the patient No reactions were observed.

COMMENT

In spite of large numbers of injections of bismuth arsphenamine sulfonate there are comparatively few reports in the literature of thrombopenia resulting from its use One of us (H A H) has given approximately 6,000 injections of this drug, and this is the first severe reaction observed The cause of the sudden appearance of thrombopenia is undetermined but this case rather pointedly suggests an allergic mechanism The reaction was sudden, following in a few hours the second injection of the small dose of the drug The eosinophil count in the blood was 16 per cent on the first day but dropped to 3 per cent thereafter It is questionable whether the treatment as given was effective or even necessary Certainly we cannot be sure which of the therapeutic agents was the effective remedy Jukes[5] had 1 patient in whom thrombopenia developed after the administration of neoarsphenamine and who made a spontaneous recovery Probably there have been other unreported cases The most important point on differentiation is to separate this relatively mild condition, possibly allergic from the dangerous hypoplastic and aplastic anemias due to depression or destruction of the bone marrow following exposure to benzene, gold compounds mesantoin® (3 methyl 5 phenyl 5 ethylhydantoin) and other drugs This differential of course is made by blood and bone marrow studies Certainly the appearance of such a reaction as is here reported is an absolute contraindication to the use of the drug again in the affected patient

SUMMARY

After cure of a persistent pruritic eruption with fifteen injections of bismuth arsphenamine sulfonate (bismarsen®) a recurrence of lichen planuus eight years later was treated with the same drug Acute thrombopenia followed the injection of the second small dose of the drug there was prompt complete recovery In the case reported herein an allergic mechanism is suggested as the probable etiologic factor

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[5] Jukes R F Personal communication to the authors

STERILIZATION OF PLASTER BANDAGES WITH ETHYLENE OXIDE

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Murray and Denton[1] were the first to suggest that plaster bandages might be responsible for the contamination of wounds and were the first to study the bacterial flora of plaster They reported a fatal attack of tetanus in which the plaster cast was the presumptive source of the infection Clostridium tetani was recovered on culture of a single unused plaster bandage and numerous molds and bacteria, both aerobic and anaerobic were cultured from an additional series of 28 bandages Greenberg[2] reported a more extensive series of cultural studies of plaster obtained from various parts of Canada Of 194 specimens studied, only 1 was sterile Among the organisms recovered were Escherichia coli, Streptococcus fecalis Streptococcus bovis, Clostridium perfringens Clostridium novyi Clostridium histolyticum Clostridium bifermentans aerobic spore-forming bacilli staphylococci diphtheroids and micrococci Clostridia were recovered from 132 of 222 bandages cultured in the two studies

The provision of sterile plaster for application to clean and contaminated wounds and for use in clean operating rooms appeared to be desirable

Murray and Denton[1] Greenberg[2] and Klotz[3] attempted to sterilize plaster bandages by means of dry and wet heat Neither procedure was satisfactory Although autoclaving achieved sterilization the bandages often became too wet to use and large losses of plaster occurred Exposure of bandages to a heat of 190 C for ninety minutes was found to be the best method of sterilizing by dry heat but unfortunately the setting characteristics of the plaster were undesirably modified by that procedure Dry heat at lower temperatures failed to result in sterilization and at higher temperature caused charring and friability of the crinoline matrix

Ethylene oxide has been used to sterilize food stuffs instruments, solid vegetable matter[4] and soil and it has been used in this laboratory in liquid form to sterilize bacteriologic

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From the Department of Bacteriology the Alfred I du Pont Institute of the Nemours Foundation

[1] Murray E G D and Denton G D Plaster of Paris A Source of Infection in Tetanus and Gas Gangrene Canad M A J 60 1 [illegible]

[2] Greenberg L A Bacteriological Analysis of Plaster of Paris Bandages Canad M A J 60 4 1949

[3] Klotz M O Sterilization of Plaster of Paris Bandages in the Ottawa Civic Hospital Canad M A J 60 6 1949

[4] Hansen H N and Snyder W C Gaseous Sterilization of Biological Materials for Use as Culture Media Phytopath 37 [illegible] 19[illegible]

[5] Roberts J L Allison L E Pickett P S and Riddle K B Preliminary Studies on Soil Sterilization with Ethylene Oxide J [illegible] 45 [illegible]0 1943

mediums[6] It seemed possible that it might be capable of sterilizing plaster bandages, and preliminary experiments demonstrated that such was the case

Two procedures have been employed for sterilizing with ethylene oxide[6a] In the first, plaster bandages were removed from their paper envelopes and were stacked loosely in a glass anaerobic jar The jar was placed in a refrigerator at approximately 0 C for one hour Chilled ethylene oxide[7] was added in amounts of 1 to 5 cc by means of a chilled pipet The lid which was provided with a single stopcock, was clamped in place forming an air-tight seal The stopcock was closed and the jar was removed to a 37 C air incubator At frequent intervals the stopcock was opened for a few moments to relieve the pressure formed by the vaporizing ethylene oxide After all the ethylene oxide had vaporized, as indicated by failure to produce sound of escaping gas on opening the stopcock, the stopcock was closed and the jar was allowed to stand undisturbed overnight In the morning, specimens were removed under sterile precautions for culture

In more recent experiments a 22 quart (20 8 liter) commercial pressure cooker has been used in place of the anaerobic jar The openings for the pressure-regulating device and the safety vent were sealed and a metal stopcock was inserted into one of them Plaster bandages were removed from their paper wrappings and were stacked in a stainless steel sponge drum which was placed in the cooker The cooker was then chilled for one hour and 10 cc of chilled ethylene oxide were introduced The lid was clamped into position and the cooker was placed in the 37 C incubator overnight Approximately one-fourth atmosphere in excess of atmospheric pressure developed in the cooker due to the vaporizing ethylene oxide In the morning the pressure was relieved by opening the stopcock The drum containing the treated bandages was removed and the bandages were cultured to determine the effectiveness of sterilization

Pieces of untreated plaster bandage and untreated whole bandages were cultured in tryptose phosphate broth fluid thioglycollate medium and cooked meat medium for the presence of aerobic and anaerobic bacteria In confirmation of the work of Murray and Denton and of Greenberg we have found the plaster to be contaminated with a wide variety of bacterial species After treatment with ethylene oxide in one or the other of the methods described herein, cultures were made in the three mediums in some instances whole bandages were used and in other instances 1 inch (2 54 cm) squares cut from various positions along the bandages In all, six batches of bandages have been treated with ethylene oxide and have been cultured thereafter All these cultures have been sterile with the exception of one 1 inch square, from which a micrococcus was recovered It is likely that the micrococcus was a contaminant, since it was a variety commonly found in laboratory air but not previously recovered from untreated plaster

Plaster treated in the manner described is not altered in general properties It hardens as rapidly as untreated plaster, and the physical characteristics of a cast formed from it are unchanged

The work of the Canadian bacteriologists[1 -] has directed attention to plaster as a possible source of danger in orthopedic surgery The magnitude of this danger cannot properly be evaluated until further studies, preferably quantitative as well as qualitative, have been made of the bacterial species present in plaster and until clinical investigation of wound infections includes bacteriologic examination of the plaster cast In any case, if sterile plaster bandages were readily available one could hardly object to their use in forming casts on open wounds The successful sterilization of plaster by means of ethylene oxide should make it possible for hospitals to sterilize their own plaster bandages and for manufacturers to furnish a sterile packaged product The need to work out the practical details remains

ADDENDUM

Since this article was submitted for publication, two papers pertinent to the subject have appeared Phillips and Kaye[8] have reviewed in great detail the use of gaseous ethylene oxide as a sterilizing agent Gibbons and Ewing[9] have described the use of formaldehyde vapor to sterilize plaster bandages

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[6] Wilson, A T and Bruno P The Sterilization of Bacteriological Media and other Fluids with Ethylene Oxide J Exper Med, to be published

[6a] Ethylene oxide in sufficient concentration is explosive and toxic Provision must be made to prevent local accumulation of the gas in the air

[7] Obtained from Eastman Kodak Company Rochester, N Y

[8] Phillips C R and Kaye S The Sterilizing Action of Gaseous Ethylene Oxide Am J Hyg **50** 270 1949

[9] Gibbons, R J, and Ewing J B Sterilization of Plaster of Paris Bandages Canad M A J **61** 618 1949

MALIGNANT PHEOCHROMOCYTOMA WITH PAROXYSMAL HYPERTENSION AND METASTASIS TO THE CERVICAL SPINE

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and
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Malignant pheochromocytomas that have produced the clinical picture consequent to the liberation of large amounts of epinephrine into the blood stream have not been previously reported A total of 8 cases of malignant pheochromocytoma have been reported in the medical literature[1] Paroxysmal hypertension was not a feature of the disease in any of these cases The case reported herein is considered of interest because of the severe and frequent attacks of paroxysmal hypertension produced by the primary tumor and the complete freedom from these attacks following the surgical removal of the tumor

REPORT OF CASE

R S L, a white man aged 47, was admitted to the hospital with weakness of the right arm, inability to move the legs and loss of bladder and bowel control The illness was of two months' duration

Past History—He was well until 1942, when he began to have attacks of headache, dizziness and a sensation of "pounding in the chest" These attacks were precipitated by excitement or by lying on either side He would experience as many as ten attacks in a day

Four months prior to hospitalization he noticed an aching pain in the right shoulder A month later he began to experience a tingling numbness of the fingers of the right hand Two months later he awoke one morning unable to move the right leg and unable to initiate micturition He was hospitalized, and in the following month there developed complete paraplegia with loss of bowel and bladder control and ulcers over the sacrum He was then transferred to this hospital for treatment of his neurologic disease

Examination—An emaciated man aged 47, lying in bed, had decided atrophy of the right arm and of the lower extremities Frequent painful jerking motions of the lower extremities were observed There were three decubitus ulcers over the sacrum The blood pressure was 130 systolic and 90 diastolic, and examination of the chest was not remarkable Palpation of the abdomen revealed a firm mobile mass about 10 cm in diameter in the upper right quadrant Manipulation of this mass precipitated an attack of dizziness, headache and palpitation of the heart The blood pressure went to 260 systolic and 150 diastolic, and there was severe associated constriction of the retinal arterioles seen through the ophthalmoscope

Neurologic Examination—The cranial nerves functioned normally There was a zone of hypesthesia and hypalgesia on the left side of the body below the level of the fourth cervical

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From the Neurosurgical Service of *Fort Miley Hospital*

Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinions or policy of the Veterans Administration

[1] (*a*) Calkins E, and Howard J E Bilateral Familial Pheochromocytoma, J Clin Endocrinol **7** 47 1947 (*b*) McGavack, T H Benjamin J W Speer, F D and Klotz S Malignant Pheochromocytoma J Clin Endocrinol **2** 332, 1942 (*c*) Bauer J and Belt, E Paroxysmal Hypertension with Concomitant Swelling of the Thyroid, J Clin Endocrinol **7** 30, 1947 (*d*) Blacklock, J W S Ferguson J W, Mack, E Shaper J and Symington, J Pheochromocytoma Brit J Surg **35** 179 1947 Softer, L J Diseases of the Adrenals Philadelphia Lea & Febiger, 1946 (*e*) Eisenberg A A and Wallerstein H Pheochromocytoma of the Suprarenal Medulla (Paraganglioma) Arch Path **14** 818 (Dec) 1932

dermatome There was a mild hyperesthesia of the body below this level The right arm and both legs exhibited a spastic type of weakness that was most pronounced in the right leg Reflexes were generally hyperactive and a pathologic great toe reflex was obtained on the right There was decided loss of tone of the anal sphincter

Special Studies—Examination of the blood disclosed 4 080 000 red blood cells and 13,450 white blood cells (cystitis), with neutrophils 56 per cent lymphocytes 34 per cent, monocytes 3 per cent, eosinophils 4 per cent and basophils 3 per cent. The hemoglobin content of the blood was 12 Gm The spinal fluid was normal in dynamics, crystal clear and without cells The sugar measured 88 mg per hundred cubic centimeters, there was no globulin the total protein determination was 18 mg per hundred cubic centimeters Reaction to the Wassermann test was negative The colloidal gold curve read 0011100000 The blood urea nitrogen level was 13 9 mg, the total cholesterol 356 mg cholesterol esters 270 mg sodium chlorides 105 3 mg and the sugar 66 0 mg per hundred cubic centimeters The carbon dioxide-combining power was 20 6 milliequivalents, the serum potassium 5 0 milliequivalents and the sodium 144 0 milliequivalents per liter The phosphatase level was 6 Bodansky units The urine was straw colored and cloudy, with an alkaline reaction specific gravity 1 015, trace of albumin no sugar, 4 to 8 white blood cells per high power field and amorphous phosphate crystals

Roentgenograms of the chest revealed normal conditions A pyelogram after intravenous injection of a contrast medium revealed distortion and downward displacement of the right kidney by a large mass at its upper pole Roentgen examination of the cervical vertebrae showed severe erosion of the pedicles on the right in the lower cervical region A myelogram made after injection of a radiopaque contrast medium (pantopaque®) showed a filling defect extending upward from the first thoracic vertebra. A histamine test (injection of 0 5 mg of histamine) produced a rise in the blood pressure from 120 systolic and 70 diastolic to 225 systolic and 133 diastolic (fig 1)

Treatment—The patient was placed on a high protein diet, and 25 mg of testosterone propionate was given intramuscularly daily Infra-red therapy to the decubitus ulcers and restoration of a positive nitrogen balance combined to result in prompt healing of the ulcers Administration of mephenesin (tolserol®), 2 Gm three times a day, resulted in lessening of the painful spasticity of the lower extremities

Operation—When the general condition of the patient had sufficiently improved a cervical laminectomy was performed. The lamina were exposed from the second thoracic to the fourth cervical vertebrae. A reddish yellow tumor mass was seen extending between the lamina of the sixth and seventh cervical vertebrae. These laminae beneath the tumor were moth-eaten in appearance and were soft and spongy The tumor invaded the musculature of the neck and extended extradurally to the right anterior surface of the spinal cord It extended in a thin sheet downward as far as could be seen and was exceedingly adherent to the dura. Complete removal of the mass was impossible. Postoperatively the patient regained considerable motion of the legs and was able to control the anal sphincter

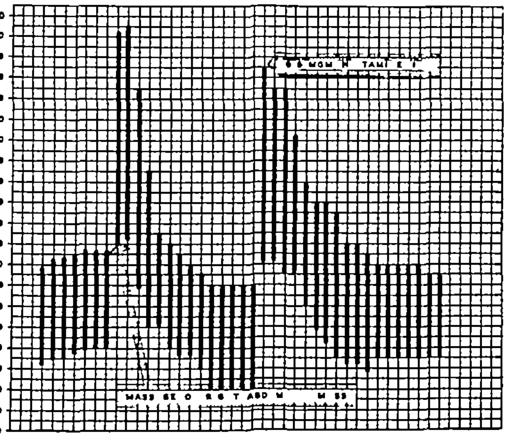

Fig 1—Alterations in blood pressure as result of abdominal massage and of intravenous histamine therapy in a patient with malignant pheochromocytoma

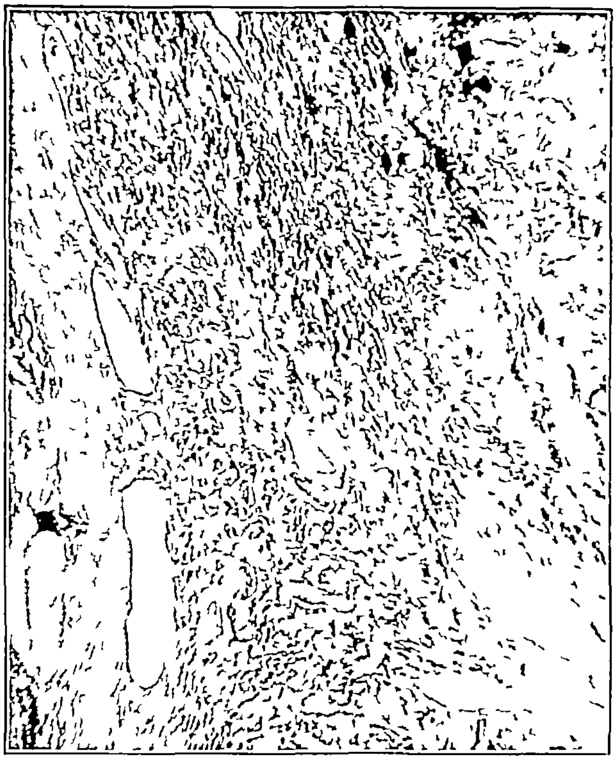

Fig 2—Photomicrograph of the primary tumor (× 40)

One month later the abdominal tumor was removed through a right lumbar incision It was a firm reddish yellow mass that was well encapsulated In manipulating the abdominal tumor during its removal the blood pressure rose from 120 systolic and 90 diastolic to 260 systolic and 170 diastolic and it was necessary to administer an adrenolytic benzodioxan derivative (2-[1-piperidylmethyl]-1,4 benzodioxan hydrochloride) intravenously to lower the pressure to a safe level until the pedicle of the tumor could be ligated

After surgical intervention the blood pressure was maintained by the use of lipoadrenal cortex extract 2 5 cc intramuscularly every six hours and by continuous intravenous drip of epinephrine solution that was titrated to maintain the blood pressure at 140 systolic and 90 diastolic After stabilization of the blood pressure the postoperative course of the patient was uneventful He has had no further attacks of paroxysmal hypertension

COMMENT

Calkins and Howard[1a] pointed out that there are 176 cases of surgically treated pheochromocytomas in the literature and that of these 15 were bilateral Five of these bilateral tumors were malignant. None of the patients with malignant lesions had constant or paroxysmal hypertension McGavack and associates[1b] were able to find 8 cases of malignant pheochromocytoma in the literature and noted that in none of these was hypertension an element They stated that it seems important to emphasize not only the complete absence of hypertension in the malignant forms but also its failure to appear in slightly less than 50 per cent of the benign cases Bauer and Belt[1c] in their discussion of malignant pheochromocytomas mention the 8 reported cases and remark on the absence of hypertension in them Hyman and Mencher [2] point out that pheochromocytomas have been known to develop simultaneously in two or more sites Phillips has reported intrathoracic pheochromocytomas [3] Eisenberg and Wallerstein [10] commented on the concomitant occurrence of pheochromocytomas and other tumors and noted that the only significant association is with neurofibromas They were able to find 9 cases of this association In the present case the cell structure of the primary tumor (fig 2) identified it as a malignant pheochromocytoma Microscopic study of the metastatic tumor (fig 3) proved its origin from the primary adrenal tumor

As the photomicrographs show, there were many cells with large irregular nuclei containing two or more nucleoli eccentrically placed Sinusoidal spaces were frequent In the hematoxylin and eosin stain the cell cytoplasm was faintly acidophilic and there were occasional bluish granules Long polyhedral cells varying in size from 10 to 50 microns were seen

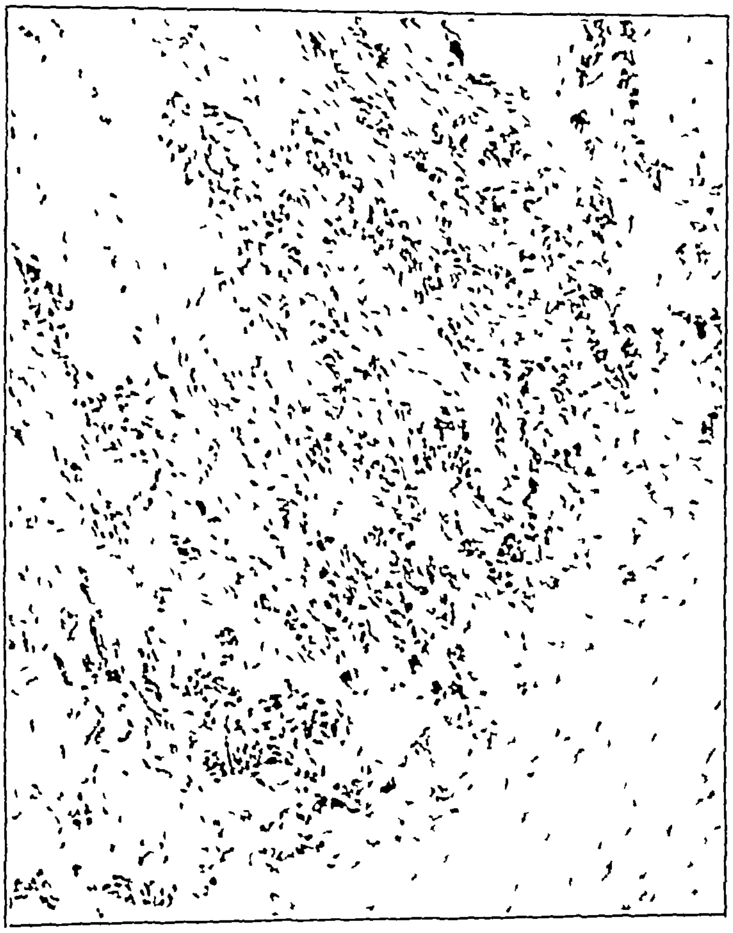

Fig 3 - Photomicrograph of the metastatic tumor (X 40)

SUMMARY

A case of malignant pheochromocytoma giving rise to severe attacks of paroxysmal hypertension and with metastasis to the cervical portion of the spinal cord producing a pseudo-Brown-Sequard syndrome is described

Complete cure of the paroxymal hypertension resulted from removal of the primary right adrenal tumor

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[2] Hyman A and Mencher W H Pheochromocytoma J Urol 49 755 1943

[3] Phillips B Intrathoracic Pheochromocytoma Arch Path 30 916 (Oct) 1940

Patients Must Not Be Neglected—A physician is free to choose whom he will serve He should, however, respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service Once having undertaken a case, the physician should not neglect the patient, nor should he withdraw from the case without giving notice to the patient, his relatives or his responsible friends sufficiently long in advance of his withdrawal to allow them to secure another medical attendant—Section 4, Chapter II of the PRINCIPLES OF MEDICAL ETHICS of the American Medical Association

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Council on Foods and Nutrition

This paper was prepared at the request of the Council and is one of a series appearing in THE JOURNAL *In the near future the entire series will appear in book form as the Council's Handbook of Nutrition*

JAMES R WILSON, M D, *Secretary*

NUTRITION PROBLEMS OF GERIATRIC MEDICINE

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Human nutrition and metabolism are fundamentally similar throughout the life span The basic needs of the human organism required to maintain health and to permit normal growth and development have been discussed elsewhere in this series But the process of aging produces change, and thus the period of senescence or involution presents special problems in nutrition just as does the more dramatic period of conspicuous growth, or evolution of infancy and childhood Pediatrics made its greatest advances when it was realized that the child is not merely "a little man" but presents nutritional, chemical, structural, functional, immunologic and psychologic attributes characteristic of his age or stage of development A similar attitude is essential to comprehensive appreciation of geriatric medicine Older persons are not the same as they were in youth or in the full bloom of physical maturity, they are different in many respects by reason of the changes of aging The effects of aging are most conspicuous at the beginning and the end of the normal life span, though processes of aging are continuous throughout life

Geriatric medicine, or the medical care of the aging and the aged,[1] is not sharply defined by any arbitrary limits as to the age at which it should begin It is not as yet a formal specialty, and it is hoped that it will not become one It is essentially a point of view, or attitude of mind, which takes cognizance of the physiologic, structural, psychologic, chemical, and other changes introduced by aging after the peak of maturity Geriatric medicine is not limited to the senile Such would indeed be a sterile field Geriatric medicine is concerned with the aging as well as with those already aged for it is realized that far more can be accomplished for the larger group of senescents than for those fully senile In many respects the two decades from 40 to 60 are the most significant, in these years of later maturity or early senescence we help to determine the future health of the aged Geriatric medicine, to be fully effective, must be largely preventive medicine[2]

Chronologic age and biologic age are not synonymous and are frequently widely divergent Aging changes vary widely between different persons Furthermore, aging is not symmetric within a single person At various phases of the life span certain structures undergo accelerated alteration as a result of age Thymic atrophy in infancy, hypertrophy of the organs of reproduction at puberty and their involution at the climacteric are illustrative examples Biologic age is asymmetric, no person is the same functional age throughout Thus, the mensuration of biologic age can never be based on any single or simple criterion Many of those in the fifth and sixth decades of life are prematurely aged, some in the seventh and eighth decade are mentally and physically younger than their chronologic years Geriatric medicine must allow for much greater individual variation than is manifest earlier in life In nutrition, as in other aspects of the care of aging and aged men and women, whether sick or well, a high degree of individualization is essential

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[1] Stieglitz E J Geriatric Medicine ed 2 Philadelphia, W B Saunders Company 1949

[2] Stieglitz, E J A Future For Preventive Medicine New York, Commonwealth Fund 1945

It has proved practical to assume that geriatric medicine becomes applicable at approximately 40 years of age, for it is at this time that the insidious, progressive disorders so significant in later years first become manifest It must be kept in mind, however, that the actual beginnings of such common and important disorders as arteriosclerosis, hypertensive disease, hypertrophic arthritis and the like occur far earlier than their clinically detectable signs and symptoms It is profoundly significant that almost all the so-called degenerative diseases have one characteristic in common impairment of the nutrition of parenchymal cells[3]

Nutrition is more than diet Proper nutrition includes not only the ingestion of adequate and balanced quantities of all necessary nutritive elements but also the digestion of foods in the alimentary canal their absorption, transport to the tissue cells and utilization by the cells Nutrition may be impaired at any one or more points in this chain of activities The internal milieu is the medium through which the integrity of the tissue cells are maintained Fibrotic changes, hyalinization of the matrix, accumulation of toxic materials in the intercellular fluid and slowed transport are all consequences of the more common degenerative processes Impairment of cellular nutrition may result from any one or more of several factors (1) inadequate nutritional supply (such as dietary deficiencies, digestive failure, histanoxia of anemia), (2) inefficient distribution (circulatory impairments), (3) ineffective utilization of food elements (hypoinsulinism, asphyxia, enzyme deficiencies), (4) accumulation of injurious metabolic debris (such as azotemia, uric acid deposition)

Malnutrition may thus be endogenous as well as exogenous It includes excesses as well as deficiencies, a fact which has been unfortunately ignored by many If "normal" nutrition is taken as the average or "norm" of apparently well persons (at least those not grossly or obviously ill), it may differ widely from the optimum As health is relative and never absolute, the potentialities of an optimal nutritional status are still unrevealed Present knowledge is inadequate for a comprehensive definition of optimum nutrition and/or optimum health, but certainly the nutrition of young and old alike can be vastly improved by better application of existing knowledge In many respects the changes of senescence are primarily consequences of cellular malnourishment

CHARACTERISTICS OF SENESCENT AND SENILE PERSONS AFFECTING THEIR NUTRITION

Obviously it is impossible to discuss here all the many changes which are consequent to the element of time in living Much concerning the complex mechanisms and processes of aging is still unknown[4] We must be content with considering but a few of the more significant aspects of aging which affect nutrition in the second forty years

Individual Variation—An increasing divergence among persons occurs with advancing age We are today what we are largely because of our yesterdays The older we become the more yesterdays have affected us No two persons experience the same injuries intoxications, infections, nutritional insults fatigues or emotional traumas As these inevitable vicissitudes of existence are never identical in character in severity or in sequence, older persons become increasingly divergent. Thus, it is essential that there be individualization in analysis of the nutritional status and in any diet therapy Generalizations are dangerous

Some of the individual variations result not only from physiologic changes affected by the mode of living but also from insults and injuries Many of the injuries which are acquired in the course of a lifetime are unavoidable and, in fact, may be actually desirable Certain injurious experiences are necessary for the development of powers to protect us from more serious damage Nevertheless, every toxic, psychic or traumatic injury leaves some residue of scarring behind The detriment may or may not be apparent More frequently it is not Every transient infection affects the parenchymal tissues during the febrile state though one may not see the cloudy swelling which occurs at that time The cumulative effect of these many and varied insults is considerable particularly in older persons Actually it is impossible, even for pathologists, to distinguish with any degree of precision what structural changes in old age are due to aging per se and what are consequent to accumulated injuries[1] Thus, it is often extremely difficult to differentiate the origin of observed clinical phenomena in older patients

Evidences of disordered function may be due to preexistent disorders or to acute maladies superimposed on a previous asymptomatic impairment In this connection, geriatric medicine stands in the sharpest contrast to pediatrics, for the pediatrician has the right to assume that prior to an acute illness the child was fundamentally well and that therefore all the symptoms and signs observed are due to the acute disorder In geriatric medicine one must assume exactly the opposite that prior to an acute illness the patient was not fully healthy and that many of the evidences of disturbed function may be due to preexistent conditions In many instances these preexistent factors are intimately related to nutrition Because of the element of long duration, lesser defects in dietary habits become significant It is but logical to assume that minor and ill defined deficiency states are much more frequent in the later years than they are in youth

It must not be assumed, however, that senescence implies only decline in functional capacity Where some functions diminish, others are improved The rate of change of various structures and functional capacity varies considerably in different persons and in the same person It is characteristic that in older men and women the phenomena of disease or of altered function or of reaction to conditions of stress and/or injury are much less conspicuous than in young persons In geriatric medicine one must be constantly alert to detect and interpret the significance of subtle and minor variations If one waits until symptoms are obvious, it will usually be too late to accomplish as much as should have been accomplished[5]

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[3] Stieglitz E J Difficulties in the Clinical Recognition of Degenerative Diseases, in Cattell J Biological Symposia Ageing and Degenerative Diseases Lancaster Pa Jaques Cattell Press 1945

[4] Cowdry E V Problems of Ageing Biological and Medical Aspects ed 2 Baltimore Williams & Wilkins Company 1942 Stieglitz[1]

[5] Stieglitz E. J Therapy of the Aged M Ann. District of Columbia 17 197 (April) 1948 Geriatrics J Gerontol. 1 153 (April pt 1) 1946

Factors Affecting Absorption and Transportation of Foods—Certain changes in the alimentary canal and its ancillary structures are significant in the problems of nutrition in later years Loss of teeth interferes with proper mastication; an inability to chew properly may so reduce the tolerance to certain types of foods that important items are deleted from the dietary Frequently it is possible to correct so-called irritable bowel by insistence on proper dentures Because of painful or missing teeth older persons frequently choose only the softer foods, which may lead to difficulties with constipation

The secretion of digestive enzymes and hydrochloric acid by the stomach and the intestinal canal diminishes with advancing age In the eighth and ninth decades an almost complete achylia is usual The secretion of trypsin and pepsin is likewise diminished The actual volume of all the alimentary secretions is lessened Therefore considerable interference with the digestion of foods is to be anticipated Chronic cholecystitis or impairment of function without active inflammation interferes with the utilization of fats; their ingestion may account for considerable flatulence and discomfort In such circumstances, unless the diet be fortified with the fat-soluble vitamins from sources other than the natural fats a deficiency due to spontaneous avoidance of fatty foods is not at all unusual Atrophy of the alimentary mucosa with diminished vascularity makes the senile bowel more vulnerable to trauma and may impede absorption Diminished secretion of mucus, which normally serves as a lubricant in the lower intestinal canal contributes to the tendency to impaction and constipation Because of interference with absorption, it is often desirable to prescribe larger quantities of specific food substances indicated to replace deficiencies than would be theoretically necessary With inefficient absorption one must allow for wastage

Transportation of absorbed food elements from the intestinal canal to the tissues is often adversely affected by the changes in the circulatory apparatus which are common with advancing age Cardiac inefficiency with resultant hypostasis reduces the supply of oxygen to the tissue cells as well as interfering with the removal of metabolic debris Oxygen inadequacy may be regarded as a special type of nutritional deficiency Arteriosclerotic changes roughly parallel advancing age in man However, arteriosclerosis may occur in persons as young as 35 to 40, and it must not be assumed that vascular depreciation is an inevitable concomitant of age Age per se is a contributing and not the primary factor in the development of arteriosclerosis That nutritional factors play a significant role in the causation of this common and most important disorder is unquestioned though thus far there is much confusion of the interpretation of clinical and experimental observations The concept that a liberal protein intake contributed to this disorder is no longer valid; Eskimos living almost solely on animal tissue and therefore on a very high protein diet do not show any increased incidence of either renal or vascular disease Fat has been considered a potential cause of arteriosclerotic change, but this has not, as yet, been established in man by controlled observations [6] There is evidence that a high fat intake in the diabetic person contributes to the premature development of arteriosclerosis However, diabetes is a general metabolic disorder; recent observations have indicated that in diabetic patients maintained on balanced normal diets arteriosclerotic change is much more rapid than in nondiabetic persons [7]

Hypertensive arterial disease interferes most decidedly with the nutrition of the tissue cells It must be emphasized that distal to arteriolar constriction the circulation is impaired Capillary stasis creates local impairment of nutrition and the oxygen supply Diminished capillary permeability may add to impaired renal efficiency in enhancing accumulation of detrimental metabolic debris in the tissue interstices The gradual diminution of renal efficiency, not necessarily to the point of renal decompensation and therefore the development of clinically obvious uremia, makes imperative the desirability of a liberal fluid intake in later years It is more work for the kidneys to secrete a small volume of highly concentrated urine than a larger volume of dilute urine The chronically impaired kidney of later maturity, whether due to the vascular changes common with aging or to previous nephritis, requires a larger fluid intake and therefore larger urinary output in order to eliminate the metabolic debris adequately [8] The concept that a liberal intake of water in one form or another is hazardous because of the strain assumed to be placed on the aging myocardium is no longer valid [9]

Metabolic Factors With normal aging, there is a gradual diminution in the homeostatic efficiency of the organism This impairment may be accelerated by accumulated injuries of previous disease It is well known that the internal milieu of the organism remains nearly constant throughout the life span and the ranges of almost all the so-called physiologic constants, such as temperature, pulse rate, concentrations in the blood of glucose, protein, calcium and the like, are about the same at age 80 as at 8 Nevertheless, the ability to maintain such constancy depreciates with advancing age Tolerance for stresses of all sorts is diminished; older persons do not adjust as well as younger adults to extremes of temperature and dehydration, to starvation, to excesses in carbohydrate intake and the like The early lowering of efficiency is revealed only by observation under conditions of stress

Because the glucose tolerance test creates physiologic stress, it is particularly valuable in the evaluation of health in later years The curve obtained in the glucose tolerance procedure in older persons frequently resembles that seen in younger diabetic patients The aging person does not respond well to a rapid absorption of glucose [10] Similarly, the older person does not tolerate a lowered blood sugar content, whether the result of starvation or of hyperinsulinism Soon after the introduction of insulin into the management of diabetes mellitus it was observed that elderly diabetic persons, when precisely controlled to maintain a perfectly normal blood sugar at all times, frequently had circulatory difficulties A low blood sugar content (and this may not be so low as to be below the average normal range but only relative for the individual) may

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[6] Steiner A, and Domanski, B Serum Cholesterol Level in Coronary Arteriosclerosis, Arch Int Med **71** 397 (March) 1943

[7] Richardson R and Bowie M A Diabetes Mellitus as Observed in One Hundred Cases for Ten or More Years, Am J M Sc **208** 1 (Jan) 1945 Kimmelstiel, P and Wilson C Intercapillary Lesions in the Glomeruli of the Kidney Am J Path **12** 83 (Jan) 1936 Laipply, T C, Eitzen O and Dutra F R Intercapillary Glomerulosclerosis, Arch Int Med **74** 354 (Nov) 1944 Goodof I I Intercapillary Glomerulosclerosis Ann Int Med **22** 373 (March) 1945

[8] Stieglitz E J Abnormal Arterial Tension edited by M Fishbein, New York National Medical Book Company, Inc 1935

[9] Schemm F R A High Fluid Intake in the Management of Edema, Especially Cardiac Edema I Details and Basis of Regime, Ann Int Med **17** 952 (Dec) 1942, II Clinical Observations and Data, ibid **21** 937 (Dec) 1944 Stieglitz [1]

[10] Smith, L E and Shock N W Intravenous Glucose Tolerance Tests in Aged Males J Gerontol **4** 27 (Jan) 1949

Factors Affecting Absorption and Transportation of Foods—Certain changes in the alimentary canal and its ancillary structures are significant in the problems of nutrition in later years Loss of teeth interferes with proper mastication, an inability to chew properly may so reduce the tolerance to certain types of foods that important items are deleted from the dietary Frequently it is possible to correct so-called irritable bowel by insistence on proper dentures Because of painful or missing teeth older persons frequently choose only the softer foods, which may lead to difficulties with constipation

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Transportation of absorbed food elements from the intestinal canal to the tissues is often adversely affected by the changes in the circulatory apparatus which are common with advancing age Cardiac inefficiency with resultant hypostasis reduces the supply of oxygen to the tissue cells as well as interfering with the removal of metabolic debris Oxygen inadequacy may be regarded as a special type of nutritional deficiency Arteriosclerotic changes roughly parallel advancing age in man However, arteriosclerosis may occur in persons as young as 35 to 40, and it must not be assumed that vascular depreciation is an inevitable concomitant of age Age per se is a contributing and not the primary factor in the development of arteriosclerosis That nutritional factors play a significant role in the causation of this common and most important disorder is unquestioned though thus far there is much confusion of the interpretation of clinical and experimental observations The concept that a liberal protein intake contributed to this disorder is no longer valid, Eskimos living almost solely on animal tissue and therefore on a very high protein diet do not show any increased incidence of either renal or vascular disease Fat has been considered a potential cause of arteriosclerotic change, but this has not, as yet, been established in man by controlled observations [6] There is evidence that a high fat intake in the diabetic person contributes to the premature development of arteriosclerosis However, diabetes is a general metabolic disorder, recent observations have indicated that in diabetic patients maintained on balanced normal diets arteriosclerotic change is much more rapid than in nondiabetic persons [7]

Hypertensive arterial disease interferes most decidedly with the nutrition of the tissue cells It must be emphasized that distal to arteriolar constriction the circulation is impaired Capillary stasis creates local impairment of nutrition and the oxygen supply Diminished capillary permeability may add to impaired renal efficiency in enhancing accumulation of detrimental metabolic debris in the tissue interstices The gradual diminution of renal efficiency, not necessarily to the point of renal decompensation and therefore the development of clinically obvious uremia, makes imperative the desirability of a liberal fluid intake in later years It is more work for the kidneys to secrete a small volume of highly concentrated urine than a larger volume of dilute urine The chronically impaired kidney of later maturity, whether due to the vascular changes common with aging or to previous nephritis, requires a larger fluid intake and therefore larger urinary output in order to eliminate the metabolic debris adequately [8] The concept that a liberal intake of water in one form or another is hazardous because of the strain assumed to be placed on the aging myocardium is no longer valid [9]

Metabolic Factors With normal aging, there is a gradual diminution in the homeostatic efficiency of the organism This impairment may be accelerated by accumulated injuries of previous disease It is well known that the internal milieu of the organism remains nearly constant throughout the life span and the ranges of almost all the so-called physiologic constants, such as temperature, pulse rate, concentrations in the blood of glucose, protein, calcium and the like, are about the same at age 80 as at 8 Nevertheless, the ability to maintain such constancy depreciates with advancing age Tolerance for stresses of all sorts is diminished, older persons do not adjust as well as younger adults to extremes of temperature and dehydration, to starvation, to excesses in carbohydrate intake and the like The early lowering of efficiency is revealed only by observation under conditions of stress

Because the glucose tolerance test creates physiologic stress, it is particularly valuable in the evaluation of health in later years The curve obtained in the glucose tolerance procedure in older persons frequently resembles that seen in younger diabetic patients The aging person does not respond well to a rapid absorption of glucose [10] Similarly, the older person does not tolerate a lowered blood sugar content, whether the result of starvation or of hyperinsulinism Soon after the introduction of insulin into the management of diabetes mellitus it was observed that elderly diabetic persons, when precisely controlled to maintain a perfectly normal blood sugar at all times, frequently had circulatory difficulties A low blood sugar content (and this may not be so low as to be below the average normal range but only relative for the individual) may tions is that the food supplied be "easy to eat." Patients will sometimes refuse a delicacy such as a squab but eat a simple hamburger, because the latter is already ground up and requires a minimum amount of effort for consumption. Such persons are not interested enough in eating to take the trouble to pick the meat off a squab. Considerable food can be introduced in the beverage form if the appetite is extremely poor. Frequently, liberal amounts of the vitamin B complex are given in an attempt to encourage the appetite in such circumstances.

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In the middle years of senescence or later maturity obesity is a much more frequent problem than undernutrition. It must be remembered that both are forms of malnutrition. Anxiety or discontent is at the back of most instances of overeating. Eating may be an escape mechanism; it is a source of considerable physical pleasure and permits the individual to find calm because digestion and a full belly induce drowsiness and lessened awareness of annoyances.[21] Few obese senescents survive to become senile.[1]

Occasionally one sees a truly aged patient who gives a history that for many years he or she has lived on an outrageously unbalanced diet which should, according to our more recent scientific knowledge, have led to serious nutritional deficiencies. Nevertheless, the mere fact of survival to ripe senility is convincing evidence that perhaps the scientifically illogical diet is not as bad as we might think. The habits of the aged are to be respected; experience may have taught them what they as individuals can tolerate. The characteristic of individual variability increasing with the years must never be forgotten. It is important not to insist on abrupt changes in habits of aged patients. Unwise habits can be modified slowly, but sudden and radical changes in the mode of life are physically upsetting as well as emotionally disturbing. Furthermore, if the advice regarding dietary habits is too restricted or too much at variance with the established mode of life, the patient will not follow the therapeutic suggestions and nothing whatever is accomplished.

SPECIFIC NUTRITIONAL NEEDS

Not all the specific nutritional needs of older persons are known. Basic nutritional requirements are essentially similar to those of a younger adult, with certain modifications introduced by aging and chronic metabolic disorders. By grouping the important nutritional elements, the discussion of specific nutritional needs may be facilitated and clarified.

Water.—The habit of ignoring water as an element of diet is to be deplored. Unfortunately, in many discussions of nutrition, consideration of water is omitted. Yet of the total weight of the human body, some 70 per cent is water. The intracellular water is about 50 per cent of the total body weight and the extracellular fluid about 20 per cent. Though the over-all volume of this fluid is relatively constant, water is being utilized in various ways and is thus in a state of flux. The magnitude of this utilization is impressive. It has been estimated, for example, that in twenty-four hours there are from 500 to 1,500 ml. of saliva secreted, from 1,000 to 2,500 ml. of gastric juice, from 100 to 400 ml. of bile and from 700 to 3,000 ml. of intestinal secretions. Furthermore, Smith[22] has presented data to indicate that as much as 170 liters of water are filtered from the plasma in twenty-four hours by the kidneys. Of course, most of this is reabsorbed by the convoluted tubules. Even relative dehydration can have profoundly deleterious consequences. Excessive ingestion of water is rare. The ability of the organism to eliminate excesses of water is far greater than its ability to conserve fluids when an adequate intake occurs.

Practically all water is normally obtained by the oral route. Some water, of course, is derived from foods which are not liquid at the time of their ingestion. However, the water derived from solid elements of the diet should not be calculated as far as the water intake is concerned, because the insensible loss of fluid through respiration and continuous perspiration exceeds that which is obtained from this source.[23] The total intake of beverage fluids should be such that the twenty-four hour urinary volume is a minimum of 1,500 ml. In hot weather this may mean a fluid intake of 3 liters or more, but in ordinary cool weather, with moderate activity, an intake of approximately 2 liters is optimum. In the older person it may be desirable that the fluid intake be spaced, with small amounts taken at relatively frequent intervals rather than large quantities at any one time. In these circumstances there is less strain on the absorptive mechanism of the intestinal canal and on the circulatory distribution of the fluid. Persons who, because of a cystocele or prostatic obstruction, are bothered with nocturia should avoid consuming the major portion of their fluids in the latter part of the day. Many older individuals complain that they do not "like" water. It is feasible for them to consume flavored beverages, such as ginger ale, tea, either hot or cold, coffee, soups, fruit juices and the like. It is not difficult to make fluids interesting to the palate.

Edema, whether due to nephrosis or to cardiac incompetence, does not justify the radical restriction of water to a minimum. Edema fluid is toxic.[8] Edema will accumulate whether water be ingested or not. During the subsidence of edema, whether spontaneously or from diuretic medication, it is important to cover this diuresis with an adequate water intake else the patient becomes severely intoxicated by the liberation of toxic metabolic debris which has accumulated in the edema stored in the tissues. Many times the cardiac invalid is more severely ill and in greater jeopardy during the subsidence of anasarca than during its accumulation.[24]

In extremely hot weather not only is an increased amount of water a necessity but also additional intake of sodium chloride. Additional salt should be given at meals and not as a separate item. The studies of the Army indicate that approximately 12 Gm. of salt is required for those in hot climates working at sedentary occupations. Those working hard for eight hours daily require 24 Gm., but such quantities would rarely apply to older persons.

Calories.—The detrimental effects of obesity in the later years of life can hardly be overemphasized. Extensive actuarial studies of the effects of abnormal weight on expected mortality in persons otherwise normal reveal that those 15 to 24 per cent overweight present a mortality of 144 per cent of that expected and those 25 per cent or more overweight show a mortality of 174 per cent of the expected rate. In the presence of cardiovascular disease, the hazards of overweight are even more marked. If the death rate of cardiovascular patients of normal weight is taken as 100 per cent the mortality rate for those overweight is found to be 162 per cent of normal, whereas for those underweight the death rate is only 77 per cent Similar consequences occur when obesity complicates diabetes mellitus The mortality from diabetes mellitus is increased to 250 per cent over that which occurs in those of normal weight when obesity is a factor[21]

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Obesity is almost invariably due to an excessive consumption of calories[25] Though glandular disturbances, including those of the climacteric, have been blamed for many instances of obesity, the fact remains that overweight persons eat more than they require. It is doubtful if more than 1 per cent of instances of obesity in later years are attributable to endocrine disorders The control of obesity involves two points of attack (1) prescription of a dietary with sufficient calories to maintain vigor and activity but less than that which is required to maintain the excessive weight and (2) the control of appetite so that this diet may be followed for sufficient time to permit of reduction to normal weight In the adjustment of the diet, the major restrictions in calories should be in carbohydrates and fats Proteins should not be limited and are often best increased Control of the appetite is often greatly assisted with the oral administration of 5 mg of dextroamphetamine approximately fifteen minutes to one half-hour before meals No detriment has been observed from the utilization of this drug[26] Exploration of the psychologic factors responsible for the excessive appetite is an important factor in the treatment of obesity[27] Thyroid substance is rarely indicated The indiscriminate prescription of thyroid preparations is most unwise and has resulted in unnecessary injury Not infrequently administration of thyroid increases the appetite excessively, thus making weight reduction more difficult

It is extremely important that weight reduction in persons in the second forty years be gradual A weight loss of approximately a pound (0 5 Kg) a week, or a maximum of 5 pounds (2 3 Kg) a month, is as rapid as is usually advisable However, it must be kept in mind that with the gradual reduction of approximately 5 pounds a month it is possible for the patient to lose 60 pounds (27 2 Kg) within the year The reasons for insisting on a gradual, long term program of weight reductions are several In the first place rapid weight losses are usually quickly regained because patients do not change their habits of eating Gradual weight reduction permits of the development of new eating habits At the end of six months or a year of dietary control the person does not tend to regain the weight lost Secondly, with slow but persistent reduction the patient does not complain of a sense of weakness or exhaustion Wrinkling of the skin is avoided by slow slimming This is important to middle aged and elderly alike Weight reduction in the mature adult requires patience and persistence on the part of the physician as well as of the patient Education and constant encouragement, however, can accomplish much[21]

Proteins—The elderly are prone to suffer from protein deficiency more than from any other form of deficiency[18] Inadequacy of protein is a significant factor in the pathogenesis of tissue wastage, anemia and edema Mild deficiencies may be manifested primarily by a sense of habitual fatigue Plasma protein determinations on blood from older persons frequently reveal a moderate degree of insufficiency It is not difficult to determine the degree of protein deficiency of the serum protein concentration Normally the serum protein should be about 7 Gm per 100 ml To illustrate the calculation necessary to determine the total protein deficiency we may take as an example an instance wherein the serum protein is 5 Gm per 100 ml This represents a deficit of 2 Gm per 100 ml of serum The plasma volume is 5 per cent of the total body weight Thus, if the patient weighs 70 Kg (154 pounds), we know that the plasma weighs 3 5 Kg , or is approximately 3,500 ml in volume Therefore a deficiency of 2 Gm per 100 ml multiplied by 35 equals a total deficit of 70 Gm in plasma protein For each gram of plasma protein reduced from the normal it is estimated that there exists a 30 Gm depletion of the tissue protein reserves Therefore, 70 times 30 equals 2,100 Gm as the depletion of tissue protein Thus the total protein deficiency is 2,170 Gm If the deficit is to be restored, it is necessary that a total ingestion of something over 2,000 Gm of protein be added to the usual daily requirement of 1 Gm per kilogram per day These 2 Kg of additional protein may be spread over as many days as is deemed advisable in making up the deficiency

Unfortunately, the majority of older persons dislike or resent the prescription of milk Milk is not only a valuable source of protein but also a major source of calcium Skim milk may be preferable to whole milk as a source of extra protein, especially if one wants to avoid increasing the fat intake Dried skim milk preparations, particularly those fortified with additional iron and vitamins, are of considerable value in the maintenance of good nutrition in the senile person Other significant sources of protein are cheese and lean meats Nuts are relatively poorly tolerated by the majority of older persons, particularly if they are not properly chewed The value of eggs in the dietary of the older person is open to question at the present moment because of the controversy concerning the hazards of cholesterol ingestion

The role of nutrition, and particularly of adequacy of protein, in the preoperative and postoperative care of the elderly is extremely important [28] In acute surgical emergencies, intravenous administration of hydrolyzed amino acids is entirely justified and often invaluable, but in the long term nutritional problem of protein depletion in older persons protein hydrolysates are largely unnecessary Almost all the protein hydrolysates prepared for oral administration are so extremely unpalatable that it is difficult, if not impossible, for the patient to continue their ingestion over a long enough period and in sufficient quantities to be fundamentally beneficial There is no reason whatever why the usual protein foods, such as milk products cannot be employed to maintain adequate protein intake

The metabolic requirements of the older person are similar to those of a younger person namely, a minimum of 1 Gm of protein per kilogram of body weight per day However many elderly patients are in a state of negative nitrogen balance and ingestion of 2 Gm of protein per kilogram of body weight may be

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necessary to produce a positive balance On such a liberal protein intake, a positive balance may be maintained for as long as a year, showing the extent of the previous tissue protein depletion [29] Any loss of protein through persistent proteinuria demands compensatory increase in the protein intake

Carbohydrates—The hazards of either excessively high blood sugar levels or reduction of the blood sugar to below optimum levels in the older person have been mentioned previously Adequate carbohydrates to balance the diet and, of course, appropriate restrictions for the diabetic patient are in order

Fats—The controversy as to whether arteriosclerosis and fatty degeneration of the liver, both conditions likely to be encountered with advancing years are due in any respect to a diet excessively rich in fats and cholesterol is still unsettled There are those who maintain that high fat diets contribute decidedly to the formation of arteriosclerotic change The low incidence of arteriosclerosis in the Chinese and the decrease in incidence of this disorder in Germany during the years of fat shortage following World War I are considered to be significant in this connection [30] On the other hand, studies in the relationship of prolonged increases of cholesterol in the diet to the incidence and severity of coronary arteriosclerosis indicate that there was no parallelism between the two The nutritional role of cholesterol in the genesis of human atherosclerosis is of doubtful significance [31] There is, however, no doubt that there exists a relationship between obesity, which may be due to the excessive ingestion of fats as well as of other sources of calories, and the incidence and severity of atherosclerosis [32]

Recent experimental work with animals has shown that certain types of fatty liver cirrhosis are affected by a faulty diet and prevented to a large extent by adequate amounts of dietary choline or the milk protein casein [33] In addition to choline, methionine and inositol, are significant factors in the metabolism of cholesterol These agents may assist decholesterolization It has been reported by Herrmann that inositol in doses of 2 Gm per day for twenty-five to thirty days reduced the cholesterol and cholesterol esters as much as 14 per cent [34]

It is becoming increasingly evident that there exists a close relationship between high serum cholesterol levels and coronary arteriosclerosis [35] Morrison has reported that the cholesterol content of coronary arteries in patients who died from acute coronary occlusion and myocardial infarction is often four times as great as the average cholesterol content of coronary arteries of control patients of comparable age [36] It is the considered opinion of many cardiologists that the greatest hope of preventive measures in the area of arteriosclerotic heart disease lies in the nutritional control of cholesterol metabolism

The full significance of inositol and other lipotrophic enzymes is as yet undetermined [37] The role of thyroid activity in connection with cholesterol metabolism cannot be ignored This whole area of nutritional research is advancing so rapidly that concepts cannot be crystalized sufficiently to permit of sound, confirmed clinical recommendations at the present moment

Minerals—Most of the minerals required by the body are available in ample quantities However, both calcium and iron are frequently deficient Not only is calcium frequently inadequate in the diet of elderly persons, in part because of their dislike for milk and milk products, but it has been demonstrated that the older organism has difficulty in the absorption and utilization of calcium [38] Clinical studies have shown also that it is more difficult to maintain calcium balance in older persons [39] The major food sources of calcium are milk, cheese, ice cream, green vegetables and legumes As time is an extremely significant element in the development of gradual and insidious deficiencies in nutrition, it may require a considerable period to restore calcium balance in older patients who have been gradually depleting their reserves over many years The patient should be made aware of the inevitable slowness of correcting long-standing deficiencies

The recommended allowance for iron for an adult is approximately 12 mg per day Habitual intakes below this level are extremely common Moderate anemias are almost the rule in elderly persons It does not suffice in these instances to encourage an increased intake of milk for milk is ordinarily deficient in iron, though an extremely valuable food in other respects One dried milk preparation has been fortified with the addition of iron so that this deficiency is corrected Clinical experience reveals that a great majority of elderly persons require supplemental administration of iron salts of one form or another [39]

Vitamins—Because the role and importance of the various vitamins in human nutrition have been discussed elsewhere in the present series, this discussion is intentionally brief Of particular interest to those whose problem is the nutrition of the elderly is the fact that low grades or minor degrees of vitamin deficiency can be assumed to be the rule rather than the exception Slight inadequacy of intake over a long period or excessive utilization because of recurrent infections and intoxications or impairment in absorption may all contribute to chronic vitamin inadequacy It has been shown [40] that liberal additions of the vitamin B group and ascorbic acid to the dietary of older persons can make for great improvement in general vitality and vigor In most instances of such deficiency states in elderly persons there exists a general inadequacy other than insufficiency of any one element The importance of folic acid, as well as iron, in the maintenance of an adequate hemoglobin content in elderly patients must not be forgotten Rarely is the diet so specificially asymmetric that there is a gross and conspicuous deficiency of one item without depletion of the other elements

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Vitamin supplementation through special preparations or, in severe cases, by the use of parenteral injection may be necessary in addition to a well planned adequate diet Some studies indicate that the aged require a larger vitamin intake than the average normal adult[41] whereas other investigations[42] have revealed no particular difference in requirements Because of difficulties in absorption and utilization, it is felt that the usual normal intake for an adult can well be doubled for those in later maturity or in actual senility The balance between the various vitamins should be preserved at approximately the usually recommended level There is great need for extensive studies of the specific requirement in later maturity

Bulk—The older bowel as well as that of the younger person requires an adequate amount of soft bulk in order to prevent constipation and the development of hard dry stools The senile intestinal mucosa does not tolerate roughage The roughage from bran and the scratchy fibers of items such as celery and hulls of corn must be distinguished from soft bulk Frequently, the simplest method of explaining this distinction to patients is to point out that any fruit or vegetable which can be strained through a colander will contain no roughage, though such foods need not be actually pureed Major vegetable sources of soft bulk are the roots, such as beets, turnips, parsnips, carrots and the leaves, such as spinach, lettuce, cauliflower, brussel sprouts and broccoli The stalks, such as celery and rhubarb, are rather too rough for many aged bowels The seeds, peas and beans offer little bulk, though their nutrient value is unquestioned Corn is in most instances far too irritating Control of the bulk in the diet, as well as all other items, must be highly individualized in geriatric nutrition

Accessories—Excesses of condiments and spices, particularly those which are prone to burn the tongue, such as pepper, mustard, horseradish, Worcestershire sauce and chili con carne, are undesirable for aged persons because not only are they irritating to the intestinal tract but they contribute to vascular and renal irritation[8]

The importance of an adequate fluid intake has already been emphasized Coffee and tea are not contraindicated except in specific illnesses or idiosyncrasies Recent studies have indicated that the administration of coffee throughout the life span of experimental animals has no ill effect whatsoever[43] Frequently, the desirable morning diuresis and stimulation of caffeine is highly profitable to the older persons When insomnia is a problem, caffeine in any form late in the day is to be discouraged The habits of the aged are to be respected

Alcohol is a vasodilating substance It is of considerable assistance in the management and control of arteriosclerotic change in elderly persons[44] In my opinion the judicious use of whisky or other spiritus liquors is therefore indicated in the management of many aged patients Alcohol in moderation supplies quick fuel, relaxes tensions and tends to increase the appetite A glass of wine or a highball before dinner and another at bedtime is often most constructive in increasing vigor and endurance in the elderly

SUMMARY

Science is not static Our knowledge of nutrition and understanding of gerontology, or the science of aging, are advancing rapidly[45] Geriatric medicine is daily learning more and more about the changing capacities and limitations, and therefore needs of aging men and women With every increment in knowledge certain concepts must be revised and some discarded Thus, the conclusions and suggestions presented herewith are to be considered tentative and open to revision However, while we discover new facts we must use our existing knowledge as effectively as possible even though we know it to be incomplete and tentative It is comforting to keep in mind that awareness of ignorance is a necessary prelude to learning

The essentials of good nutrition in geriatric medicine must include consideration of the following principles

1 *Moderation* Excesses are as undesirable as deficiencies Both induce malnutrition It is often most helpful for older persons to eat small quantities frequently rather than to attempt large meals

2 Individualization Individual variation increases with advancing years Generalizations and routine dietary programs are unwise Many variable factors, such as digestive and circulatory efficiency, habits, dentures and the like, affect the prescription of diet in the elderly

3 Water The importance of an adequate fluid intake must never be forgotten

4 Maintenance of hemoglobin content Anemia even if minor, is immensely more significant in later years than in youth, for the ability to compensate for inadequacy declines In the presence of any circulatory handicap (arteriosclerosis, hypertension or cardiac impairment) the quality of the circulating medium assumes a role of major importance Optimum hemoglobin concentrations should be the objective, the average does not suffice

5 Balance in dietary is as important here as at any age Asymmetry in utilization, however, may alter the optimum proportions of various elements in contrast to the usual standards for young adults Protein iron and calcium are the elements most likely to be inadequate in spontaneously selected dietaries among the aged

6 The focus of attention must be on the person rather than on his disease or diseases The human being is indivisible, psyche and soma are one Insulin does not suffice for the anxious diabetic patient nor does equanimity come to the exhausted anemia patient An attitude of constructive prophylaxis is essential to effective geriatric medicine The primary objective is the construction of health to as near the optimum as possible Wise nutrition is a most powerful tool for the attainment of vigor in later years

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SATURDAY, APRIL 8, 1950

THE SALMONELLA PROBLEM

Extensive surveys published during recent years by Edwards,[1] Seligmann[2] and Felsenfeld[3] and their co-workers show that micro-organisms called Salmonellas are present in man and animals and animal products which are served in meals The large number of individual Salmonella strains and the peculiar epidemiology of some of them, together with the complex antigenic structure which has to be considered in the diagnosis of the different Salmonella types, constitute a real problem

The disease produced in man may take one of several forms, among the commonest of which are Salmonella fever (often caused by S typhosa, the paratyphoid bacilli, S montevideo, S newport, S oranienburg and S panama), Salmonella septicemia with a serious prognosis (most frequently from S cholerae-suis), Salmonella enterocolitis (in the United States usually from S typhi-murium, S montevideo, S oranienburg, S newport, S enteritidis, S panama and S give), and, localized extraintestinal infections, such as salpingitis, otitis, pneumonia, cholecystitis or osteomyelitis Some Salmonella strains are more adapted to man (as S typhosa, the paratyphoid bacilli, S sendai) and are rarely isolated from animals Others are predominantly found in animals (e g, S pullorum in fowl, S abortus-equi in mares) All strains, however, are potentially pathogenic both for man and animals The clinical form of salmonellosis does not depend so much on the type of the infecting organism as on the age and resistance of the diseased subject Children and young animals are more likely to have infections with fatal outcome than well nourished adults Salmonella typhimurium, for example, is not infrequently isolated in cases of fatal meningitis in infants The same organism does much damage to young turkeys In adults, however, a simple and self-limited enterocolitis is the usual result of an infection with this strain

About 160 Salmonella strains or "types" have been described to date These strains differ from each other in their serologic and biochemical behavior The exact diagnosis of the infective strain is of paramount importance for epidemiologic purposes Routine diagnostic medical laboratories are not equipped with the necessary serums or adequate personnel to carry out this "typing" For this reason, a number of typing centers have been established The largest of these is operated by the United States Public Health Service in Atlanta, Ga Smaller centers are maintained in some state public health laboratories Others are supported by private research grants

The usual sources of human salmonellosis in the United States are human carriers, especially food handlers, insufficiently cooked pork and fowl, eggs, water, food contaminated during storage by rodents, domestic pets, especially dogs, and handling of infected farm animals The over-all mortality is low, approximately 6 per cent Generalized infections with Salmonella require treatment with antibiotics In enterocolitis the sulfonamides or even dietary management and some intestinal absorbent may be satisfactory The prevention of salmonellosis by appropriate hygienic measures is the most effective way of eradicating the disease Such measures include clean water supply, proper food inspection periodic examination of food handlers and treatment of sick animals

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SURVEY OF PHYSICIANS' INCOMES

The Bureau of Medical Economic Research of the American Medical Association and the Office of Business Economics of the United States Department of Commerce are conducting jointly a survey of physicians' incomes The Bureau has been authorized by the A M A Board of Trustees to cooperate in this survey, which the Department of Commerce had planned to undertake alone Similar analyses of surveys of incomes of dentists and lawyers have been made jointly by the Department with the American Dental Association and the American Bar Association This survey of physicians' incomes will be the first full scale survey by the Department of Commerce since 1941

There is evidence that the national averages in some surveys have been too high because physicians who do not have bookkeepers to fill out questionnaires do not reply in sufficient numbers Some of the previous surveys have given biased results For example, those with small practices have not been represented properly Thus it is important for all physicians, especially those with relatively small practices, to prepare properly the questionnaires they will receive Accurate postwar data on physicians' incomes are needed to permit more accurate estimates of how much the American people pay to physicians

The survey does not have any relation to the operations of the United States Bureau of Internal Revenue In fact, the Department of Commerce could not have obtained the needed information from the Bureau of Internal Revenue

The punch card files of the Bureau of Medical Economic Research contain the names of about 200,000 physicians The survey will cover 125,000 of these, or 62 5 per cent of the total Selection will be by a formula which eliminates any partiality There will be two questionnaire forms The Bureau helped to design these A short form will be used for income data for 1949 only A long form questionnaire will be used for the years 1945 through 1949 All are to be returned unsigned in franked envelopes

A short form will be sent once only to every other name in the file of the Bureau of Medical Economic Research Of the remaining 100,000 names, every fourth one will be selected To these will go 10,000 short forms and 15,000 long forms, with this distinction —the return franked envelopes will carry a code number which will identify the physician to the Bureau of Medical Economic Research alone All the addressing will be done in the headquarters of the A M A The purpose of the code number is to enable the Bureau of Medical Economic Research to address a follow up letter to those not replying to the first request Physicians need not have any suspicion concerning the code number because when the reply is received, the questionnaire will be separated immediately from the envelope and the identity will be lost The number on the envelope will then be checked off the entire list of code numbers involved in the mailing

Cooperation by the members of the medical profession will be needed in this project Physicians will be doing their profession a service by filling out the forms and returning them as soon as possible The forms will be mailed during the latter part of April

Current Comment

ETHYL ALCOHOL FOR SKIN DISINFECTION

In spite of the multiplicity of skin disinfectants available, ethyl alcohol continues to be one of the most popular Many other disinfectant mixtures contain ethyl alcohol, and their bacteriologic action is largely dependent on that ingredient Ethyl alcohol has been proved to be bacteriologically potent, it is deficient in its inability to kill spores and tubercle bacilli, deficiencies which are shared by all commonly used skin disinfectants It should not be used in wounds, because of its irritant and toxic properties, and it has reduced bacteriologic activity in the presence of serum and tissue proteins Solutions of ethyl alcohol should not be relied on for cold disinfection of instruments Price[1] has recently reinvestigated various alcohol-water ratios to determine which is most effective as a skin disinfectant In 1939 he published data which indicated that 70 per cent alcohol by weight was the optimum concentration[2] Similar results were reported by some investigators[3] but refuted by others[4] Reevaluation tests have led Price to observe, by in vitro studies that 60 to 90 per cent solutions by weight are strongly and rapidly bactericidal, much of the effect apparently taking place during the first few seconds of contact Absolute alcohol is somewhat less effective Under conditions of actual use on the hands and arms solutions 60 per cent by weight and stronger are said by Price to be efficient skin disinfectants The optimum concentration apparently varies with different persons and even in the same person from time to time, probably because of variations in the flora and condition of the skin The effectiveness of alcohol as an antibacterial agent seems to depend on the strength of the solution and the conditions under which it is used

RELATION BETWEEN MORBIDITY AND MORTALITY IN TUBERCULOUS INFECTION

The relation of tuberculous infection to the various tuberculous diseases is one of the major problems in tuberculosis At the beginning of this century some assumed that primary tuberculous infection occurred almost exclusively in childhood and was responsible for all the later forms of tuberculosis By 1916 the latent period was believed to be comparatively short for spread of the disease by the blood stream but long for chronic, progressive pulmonary tuberculosis, with the well known classification by stages This resulted from investigations with tuberculin which indicated an incidence of 100 per cent in childhood and was supported by investigations showing that tuberculous infection (a primary complex) is common in childhood and that phthisis begins in the pulmonary apexes In the late 1920's, however radiologic observations demonstrated the early infiltrates, indicating that pulmonary tuberculosis often begins acutely with much subclavicular infiltration, seldom in the apexes Many early infiltrates showed a regressive tendency and three fourths of them revealed nearby sources of infection this led to the conclusion that superinfection must play a complicated part in these cases Later it seemed more likely that the early infiltrate had arisen from a relatively recent primary infection Then Scandinavian investigators demonstrated that only a minority of persons in a community is infected in childhood and that most infections take place during adolescence and early adult life As a result consideration of the latent period of pro gressive pulmonary tuberculosis evoked the conclusion that the disease may develop shortly after a primary infection or after a long interval, but there was evidence for believing that a short latent period is common In erythema nodosum, pleuritis and most of the extrathoracic manifestations of tuberculosis a short latent period is the rule In an extensive study, Meyer[1] noted that erythema nodosum occurs during the first year of observation after infection in 5 to 10 per cent of infected persons of all ages and is most frequent in females and comparatively rare in males over 15 years of age Hilar adenitis seems to diminish as the age at the time of infection increases, it follows immediately on infection in 60 per cent of persons up to 3 years of age, 40 to 50 per cent aged 4 to 12 years, 25 per cent aged 13 to 19 years and barely 20 per cent in adults Pulmonary infiltration (a primary focus) was demonstrated radiologically during the first year of observation in 20 to 25 per cent of persons with a primary infection in all age groups Exudative pleuritis nearly always occurred in the first year of observation after infection in all age groups Extrathoracic tuberculosis usually occurred within two or three years after infection and its total morbidity was about 5 to 10 per cent after infection in the age group up to 3 years (many cases of meningitis), thereafter it was about 2 per cent in all the later ages at the time of infection After the age of 13 years, it is relatively more frequent in persons with hilar adenitis The annual pulmonary tuberculosis morbidity after childhood infection was about 0 3 per cent during the first year of observation It remained at about the same level long after infection, provided the persons had passed the age of 13 years The total morbidity after infection in childhood was 2 to 3 per cent A primary infection occurring in patients over 13 years of age showed a subsequent annual morbidity of 2 to 3 per cent After the third year of observation the annual morbidity fell below 1 per cent The high annual morbidity during the three or four years after infection in persons above the age of 13 years was over 10 per cent Infection up to 3 years of age showed a mortality of about 3 per cent (chiefly meningitis), at 4 to 12 years of age it was 1 per cent, spread over a long period and dependent mainly on extrathoracic tuberculosis During adolescence it depended on pulmonary tuberculosis, after 13 years of age, there was a 5 per cent mortality chiefly caused by pulmonary tuberculosis and presumably somewhat higher when infection occurred between the ages of 13 and 19 than later The total mortality was more evenly distributed over a long period of observation than the morbidity The mortality is of considerable importance because it confirms the morbidity observations, and no definite sex difference was evident except in erythema nodosum and pleuritis The mortality from pulmonary tuberculosis was highest when there was a family history of tuberculosis A high sedimentation rate in the first year after infection meant a definitely higher morbidity and also mortality, particularly when infection occurred in patients over 13 years of age A visible pulmonary infiltration (a primary focus) entailed a considerably increased risk of pulmonary tuberculosis during the first four years of observation and also a higher mortality Pleuritis during the first year of observation had the same unfavorable influence on the prognosis as a visible pulmonary infiltration

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[1] Price P B Re Evaluation of Ethyl Alcohol as a Germicide Arch. Surg 60 492 (March) 1950

[2] Price P B Ethyl Alcohol as a Germicide Arch. Surg 38 [illegible] (March) 1939

[3] Pohle W D., and Stuart L S The Germicidal Action of Cleansing Agents A Study of a Modification of Price's Procedure J Infect. Dis 67 275 1940 Pillsbury D M Livingood C S and Nichols A C Flora of Normal Skin Report on Effect of Various Ointments and Solutions with Comments on the Clinical Significance of This Study Arch Dermat & Syph. 45 61 (Jan) 194[illegible]

[4] Hatfield C A., and Lockwood J S An Evaluation of Some of the Materials Commonly Used for the Preoperative Preparation of the Skin Surgery 13 931 1943 Palmer D H Germicides Antiseptics and Disinfectants for Hospital Use New York Hospital Bureau of Standards and Supplies Inc 194[illegible]

APPETITE AND OLFACTORY ACUITY

In 1935, Elsberg and Levy[1] introduced a simple method of measuring olfactory acuity Measurable volumes of odorous air were injected into both nostrils The smallest volume which produced a sensation of odor was taken as a measure of the olfactory threshold Using bottles containing constant amounts of ground coffee as sources of the odorous air, Goetzl[2] and associates measured the diurnal variations in olfactory acuity in a group of male and female employees of the Permanente Institute of Medical Research, Oakland, Calif They found that on days when lunch was omitted the olfactory acuity increased gradually from the early morning until the end of the work day This increased olfactory sense was accompanied with a parallel increase in the hunger sense This basic pattern was modified on days when lunch was eaten during the midday rest period As a result of the lunch the olfactory acuity fell precipitously to a relative olfactory blindness, while the sensation of hunger was converted into one of satiety This dulness of the olfactory sense persisted for about three hours, when a rapid increase in olfactory acuity set in, accompanied with a return of the hunger sense The Permanente clinicians broadened their study to include the effects of certain therapeutic agents[3] and sugar[4] on the olfactory sense In their latest study[5] they found that 75 cc of a 12 per cent solution of ethyl alcohol given in lieu of lunch depressed the olfactory sense and appetite twice as much as the routine lunch Full recovery did not occur for four hours This amount of alcohol is equivalent to that in one small glass of wine Alcohol per se is thus a "de-appetizer" This observation indicates that the popular assumption of the ability of alcoholic beverages to create or augment appetite depends on some substances other than alcohol in such beverages Investigations are now in progress to determine the role of these other substances, particular attention being paid to bitter substances

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[1] Meyer, S N Statistical Investigations of the Relationship of Tuberculosis Morbidity and Mortality to Infection, Acta tuberc Scandinav, 1949, supp 18, pp 5 222

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[1] Elsberg, C A, and Levy, I Bull Neurol Inst New York, **4**: 5, 1935

[2] Goetzl, F R, and Stone, F Gastroenterology **9** 444, 1947

[3] Goetzl F R, and Stone F Gastroenterology **10** 708, 1948

[4] Goetzl F R, Goldschmidt M, Wheeler, P, and Stone, F Gastroenterology **12**: 252, 1949

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ORGANIZATION SECTION

Washington Letter

(From a Special Correspondent)

April 3 1950

Oppose Plan to Unify Federal Medicine

Proposed consolidation of all federal medical activities within a single agency was strenuously opposed on March 29 at the opening of public hearings on H R 5182, the bill directed toward that end Chief medical advisors to the American Legion together with National Commander George N Craig and two members of Congress appeared before the House Committee on Expenditures to oppose passage of the bill, which would establish a United Medical Administration

Dr Charles W Mayo, of Rochester Minn. testifying as an individual, said H R. 5182 'attempts to gather under one roof too much for it to hold administratively, economically or efficiently" If enacted in its present form, the bill would result in reduction both in quality and quantity of Veterans Administration professional personnel, he predicted.

In response to questioning by committee members Dr Mayo expressed the opinion that passage of legislation setting up a so-called national medical academy, for training of physicians to enter government service, and authorizing federal aid to medical schools to increase the number of graduates is not necessary Dr Mayo is chairman of the special medical advisory group which advises Veterans Administrator Carl Gray and vice chairman of the Medical Advisory Board, American Legion

Dr Leonard G Rowntree, testifying as chairman of the Legion's Medical Advisory Board, charged that abolition of VA's department of medicine and surgery through its transfer to the agency proposed by H R 5182 would constitute a breach of faith" with the medical profession

Lobbying Described as Essential for Good Government

"We look upon lobbying as a necessity, an essential thing," Representative Frank Buchanan told a National Press Club audience in Washington on March 23 He is chairman of the special House committee investigating lobbying activities which was scheduled to open public hearings March 27 He emphasized that the seven man committee wishes to do an objective job of investigating without benefit of spectacular headlines and revealed that his group does not expect to 'spot check more than six of the 27 potential areas of lobbying activity By areas" is meant general fields of enterprise such as housing, social welfare (including medical care) and heavy industries.

The speaker estimated that the 500 organizations which are registered under the National Lobbying Act represent one third of the number that should be registered and that the 2 000 individuals enrolled constitute 20 per cent of the total engaged in lobbying activities on Capitol Hill Registrants include more than 30 former Representatives and about eight or ten former members of the Senate, Representative Buchanan asserted

Expenses of Ewing's European Trip Challenged

The legality of using federal funds to pay for Federal Security Administrator Oscar R. Ewing s European trip last winter to study national health programs was questioned on March 30 at public hearings conducted by the special committee of the House investigating lobbying The point was raised by Representative Charles A Halleck (Indiana) and pursued also by Representative Clarence J Brown (Ohio) both Republicans

Representative Halleck observed, 'the American Medical Association is required to register as a lobby in connection with its opposition to socialized medicine" and it would seem only logical that Mr Ewing likewise should register if he attempts to influence legislation on the same general subject The witness who was testifying at the time, Roger Jones of the Budget Bureau, said he could not judge whether the Ewing trip abroad was for the purpose of influencing legislation He added however, that the President has the right and duty to designate Cabinet members or other officers of the executive establishment to work toward achievement of the White House legislative program

Mr Jones further explained that the listing of government officials in the congressional directory together with the fact that they are responsible for their acts is tantamount to their being registered as lobbyists or potential lobbyists

Representative Brown noted that the trip taken to England last fall by House Interstate and Foreign Commerce Committee for the purpose of studying the British health service was decried in some quarters as a junket at taxpayers expense with the same critics defending Mr Ewing s visit as an official and necessary one The committee hearings were recessed until April 19 when the investigators will begin looking into the housing lobby

Atomic Energy Commission Approves 41 Research Contracts

Approval of 41 medical and biologic research projects for financial aid by the Atomic Energy Commission was announced April 2 by Dr Shields Warren director of the Division of Biology and Medicine All but seven are new projects the remainder being renewals The awards bring to 194 the total of AEC-supported investigations in biology and medicine at 87 universities, professional schools, hospitals, clinics and other nonfederal institutions Financing is under a $5 000 000 appropriation for the current fiscal year, which ends June 30 Latest recipients of contracts include the University of Southern California, Georgetown University, University of Chicago Northwestern University, Iowa State College Louisiana State University Tulane University School of Medicine, Harvard Medical School, Mount Sinai Hospital (New York City) Meharry Medical College and University of Pittsburgh.

Coming Medical Meetings

Aero Medical Association Chicago May 29 31 Dr Thomas H Sutherland 214 S State St. Marion Ohio Secretary

Alabama Medical Association of the State of Birmingham April 20-22. Dr Douglas L. Cannon 519 Dexter Ave Montgomery Secretary

American Academy of Neurology Cincinnati Netherlands Plaza Hotel April 14 15 Dr Joe R Brown Mayo Clinic, Rochester Minn Secretary

American Association for Thoracic Surgery Denver Colo April 15 19 Dr Brian Blades 901 Twenty Third St. N W Washington D C., Secretary

American Association of Industrial Physicians and Surgeons Chicago Hotel Sherman April 24 28 Dr Frederick W Slobe 28 E. Jackson Blvd Chicago 4 Secretary

American Association of Genito-Urinary Surgeon Hershey Penn Hotel Hershey May 24 26 Dr Norris J Heckel 122 S Michigan Ave Chicago 3 Secretary

American Association of Pathologists and Bacteriologists Madison Wis April 14 15 Dr Alan R Moritz 2085 Adelbert Road Cleveland 6 Secretary

American Association of the History of Medicine Boston May 21 23 Dr Benjamin Spector 416 Huntington Ave Boston 15 Secretary

American Association on Mental Deficiency Columbus Ohio Hotel Deshler Wallick May 16-20 Dr Neil A. Dayton P O Box 9 Willimantic Conn Secretary

American Broncho-Esophagological Association San Francisco Mark Hopkins Hotel May 25 26 Dr Edwin N Broyles 1100 N Charles St. Baltimore 1 Secretary

American College of Physicians Boston April 17 21 Dr George Morris Piersol 4200 Pine St. Philadelphia Secretary General

American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14 19 Dr F Bayard Carter Duke Medical School, Durham N C Secretary

American Gastro-Enterological Association, Atlantic City April 2[illegible] 29 Dr Dwight L. Wilbur 655 Sutter St San Francisco Secretary

American Gastroscopic Society Atlantic City April 28 29 Dr H Marvin Pollard, University Hospital, Ann Arbor Mich. Secretary

American Geriatrics Society New York Hotel Commodore June 1 Dr Malford W Thewlis 25 Mechanic St., Wakefield R. I., Secretary

American Gynecological Society White Sulphur Springs W Va., The Greenbrier May 11 13 Dr Norman F Miller 1313 E. Ann St., Ann Arbor Mich Secretary

American Laryngological Association San Francisco May 2[illegible] 24 Dr Louis H Clerf 12 S Tenth St. Philadelphia 7 Secretary

American Laryngological, Rhinological and Otological Society San Francisco May 25 27 Dr C Stewart Nash, 277 Alexander St, Rochester 7 N Y Secretary

American Ophthalmological Society, Hot Springs Va The Homestead, May 31 June 2 Dr Maynard C Wheeler, 30 W 59th St, New York 19 Secretary

American Orthopedic Association Virginia Beach Va, May 23 26 Dr C Leslie Mitchell Henry Ford Hospital Detroit 2 Secretary

American Otological Society, San Francisco May 21 22 Dr Gordon D Hoople, 1100 E Genesee St Syracuse 10 N Y, Secretary

American Pediatric Society French Lick Ind, May 8-10 Dr Henry G Poncher 1819 W Polk St Chicago 12, Secretary

American Physiological Society, Atlantic City April 17 21 Dr Milton O Lee 2101 Constitution Ave Washington 25 D C Executive Secretary

American Psychiatric Association Detroit May 1 5 Dr Leo H Bartemeier General Motors Bldg, Detroit 2, Secretary

American Psychoanalytic Association Detroit Hotel Statler April 28 30 Dr LeRoy M A Maeder 1910 Rittenhouse Square Philadelphia 3, Secretary

American Psychosomatic Society, Atlantic City Chalfonte Haddon Hall, April 29 Dr Sydney G Margolin 714 Madison Ave, New York 21, Secretary

American Radium Society New York Roosevelt Hotel May 25 26 Dr Hugh F Hare 605 Commonwealth Ave Boston 15 Secretary

American Society for Clinical Investigation Atlantic City May 1 Dr Paul B Beeson Grady Hospital Atlanta 3 Ga Secretary

American Society for Experimental Pathology Atlantic City April 11 Dr Sidney C Madden Brookhaven National Laboratory Upton L I, New York Secretary

American Society for Pharmacology and Experimental Therapeutics, Atlantic City April 17 21 Dr Harvey B Haag Medical College of Virginia Richmond 19 Secretary

American Society of Biological Chemists Atlantic City April 9 14 Dr R W Jackson 825 N University St Peoria 5 Ill Secretary

American Surgical Association Colorado Springs Colo April 19 23 Dr Nathan Womack University Hospitals Iowa City Iowa Secretary

American Therapeutic Society Boston April 13 16 Dr Oscar B Hunter 915 Nineteenth St N W Washington 6 D C Secretary

American Urological Association Washington, D C, Hotel Statler, May 29 June 1 Dr Charles H deT Shivers Boardwalk National Arcade Bldg Atlantic City N J Secretary

Arizona State Medical Association Phoenix Hotel Westward Ho April 30 May 4 Dr Frank J Milloy 234 N Central Ave, Phoenix Secretary

Arkansas Medical Society, Fort Smith April 17 19 Dr William R Brooksher 602 Garrison Ave Fort Smith Secretary

Association for Physical and Mental Rehabilitation Memphis Tenn Hotel Peabody May 23 27 Mr Benjamin Forman 57 Granger St, Canandaigua N Y Secretary

Association of American Physicians Atlantic City May 2 3 Dr Henry M Thomas Jr 1201 N Calvert St Baltimore 2, Secretary

California Medical Association San Diego April 30 May 3 Dr L. Henry Garland 450 Sutter St San Francisco Secretary

Connecticut State Medical Society Waterbury May 2-4 Dr Creighton Barker 160 St Ronan St New Haven Secretary

Federation of American Societies for Experimental Biology Atlantic City, April 17 21 Dr Milton O Lee 2101 Constitution Ave Washington 25 D C Secretary

Florida Medical Association Hollywood April 23 26 Dr Robert B McIver P O Box 1018 Jacksonville Secretary

Georgia Medical Association of Macon, Hotel Dempsey April 18 21 Dr Edgar D Shanks 478 Peachtree St N E Atlanta Secretary

Hawaii Territorial Medical Association Hilo May 4 7 Dr I L Tilden Mabel Smyth Bldg Honolulu 13 Secretary

Illinois State Medical Society Springfield Illinois State Armory, May 23 25 Dr Harold M Camp 224 S Main St Monmouth, Secretary

International and Fourth American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14 19 Dr Fred L Adair 161 E Erie St Chicago 11 Information Headquarters

International Congress on Asthma Mont Dore France, June 3 4 Secretariat 59 rue Bonaparte, Paris France

Iowa State Medical Society Burlington, April 23 26 Dr Allan B Phillips 406 Sixth Ave Des Moines 9 Secretary

Kansas Medical Society Wichita May 15 18 Dr D D Vermillion 512 New England Bldg, Topeka Secretary

Louisiana State Medical Society Baton Rouge April 24 26 Dr P T Talbot 1430 Tulane Ave, New Orleans 13 Secretary

Maryland Medical and Chirurgical Faculty of the State of Baltimore April 25 26 Dr George H Yeager 1211 Cathedral St, Baltimore 1 Secretary

Massachusetts Medical Society Boston Hotel Statler May 16 19 Dr H Quimby Gallupe, 8 Fenway Boston 15, Secretary

Mississippi State Medical Association Jackson May 9 11 Dr T M Dye Box 295 Clarksdale Secretary

National Tuberculosis Association Washington, D C, April 25 28 Dr James E Perkins 1790 Broadway, New York 19, Managing Director

Nebraska State Medical Association Lincoln Hotel Cornhusker, May 1 4 Dr R B Adams 1315 Sharp Bldg Lincoln Secretary

New Jersey Medical Society of, Atlantic City Haddon Hall May 22 24 Dr Marcus H Greifinger, 315 W State St, Trenton 8 Secretary

New Mexico Medical Society Las Cruces May 4 7 Dr H L January 4852 Southern Ave Albuquerque Secretary

New York Medical Society of the State of New York May 8 12 Dr Walter P Anderton 292 Madison Ave New York 17 Secretary

North Carolina Medical Society of the State of Pinehurst The Carolina May 1 3 Dr Millard D Hill, 15 W Hargett St Raleigh Secretary

North Central Clinical Society, Cincinnati Netherland Plaza Hotel, April 29 Dr John H Payne, 5 W Fourth St Cincinnati, Secretary

North Dakota State Medical Association, Grand Forks, May 27 30 Dr O A Sedlak 702 First Ave S, Fargo, Secretary

Northern Tri State Medical Association, Grand Rapids Mich, April 11 Dr William H Gordon, 1553 Woodward Ave Detroit, Secretary

Ohio State Medical Association Cleveland May 16 19 Mr Charles S Nelson 79 E State St Columbus 15, Executive Secretary

Oklahoma State Medical Association, Oklahoma City, May 14 17 Dr Lewis J Moorman 210 Plaza Court Oklahoma City Secretary

Rhode Island Medical Society Providence R I Medical Library May 10 11 Dr Morgan Cutts 106 E Francis St, Providence 3 Secretary

Society of American Bacteriologists Baltimore May 15 19 Dr John E. Blair 1919 Madison Ave New York 35 Secretary

South Carolina Medical Association Myrtle Beach May 16-18 Dr Julian P Price 105 W Cheves St Florence Secretary

South Dakota State Medical Association, Mitchell May 20-23 Dr Roland G Mayer 22½ S Main St, Aberdeen, Secretary

Tennessee State Medical Association Memphis April 10 12 Dr W M Hardy 706 Church St Nashville 3 Secretary

Texas State Medical Association of Fort Worth May 2 5 Dr Harold M Williams 700 Guadalupe St Austin Secretary

Western Branch American Public Health Association Portland, Ore., May 30 June 1 Mr Walter S Mangold University of California Berkeley Calif Secretary

Medical Legislation

STATE LEGISLATION

California

Bill Introduced—A 66-X to amend the **unemployment insurance act**, proposes to permit employees to receive a per diem payment during period of confinement in a hospital over and above any other benefits to which he might be entitled under the act

Massachusetts

Bill Enacted—S 533 has become chapter 191 of the laws of 1950 It amends the law relating to **nonprofit hospital service corporations** by authorizing such corporations to enter into reciprocal arrangements with other financially sound nonprofit hospital service corporations organized in other jurisdictions to provide hospital service benefits for subscribers residing or employed in the commonwealth

Mississippi

Bills Introduced—H 944 proposes to prohibit the sale of any appliances drugs or medicinal preparations intended or having a special utility for the prevention of **venereal diseases** without a license from the state board of pharmacy except that such proposal would not apply to physicians and medical practitioners regularly licensed to practice medicine in the state H 998 proposes to authorize hospital authorities to turn over **dead bodies** of hospital patients to medical schools in certain cases

New Jersey

Bills Introduced—A 311-A proposes regulations for the licensing of public health **laboratory technicians** A 311-B proposes to authorize the commissioner of health to issue **public health nurse's certificates** in certain circumstances A 373 proposes the creation of a state board of examiners of **psychologists** Under this proposal a psychologist would be defined as a person who renders to individual clients or the general public for fees or personal profit any professional service requiring the application of recognized principles methods and procedures of the science and profession of psychology such as counseling, interviewing administration and interpretation of statistically standardized tests of mental abilities and personality characteristics for the purpose of psychologic appraisal for the betterment of human welfare or for fees or personal profit applies such psychologic technic for purpose of reeducation guidance or readjustment S 113 proposes regulations for the licensing of **ophthalmic dispensers**

New York

Bills Introduced—A 3270 proposes the creation within the department of mental hygiene of a **mental hygiene council** to consider any matters relating to the improvement of the state mental hygiene program and advise the commissioner of mental hygiene thereon A 3286 and S 2830 propose regulations for the furnishing of **psychiatric and psychologic services** to the department of correction S 1694 proposes to authorize the organization of a **memorial center for cancer** and allied diseases the object of which would be to establish maintain and conduct a hospital in the state for the treatment of cancer and allied diseases and to carry on activities of all kinds looking toward the prevention treatment control and cure of cancer and allied diseases

Rhode Island

Bills Introduced—H 835 proposes amendments to the **basic science act** relating to the circumstances under which an applicant may be reexamined in certain subjects failed at a prior examination S 177 proposes to provide for the **administration of first aid** and other medical services in places of employment S 238 proposes regulations for licensing **optometrists and opticians**

Bill Enacted—H 780 was approved March 15, 1950 It revivifies a special commission to investigate the advisability of establishing facilities for the study, treatment and **care of inebriates**

Virginia

Bill Enacted—S 45 has become chapter 174 of the Laws of 1950 It provides for the creation and organization of **hospital or health center commissions** to operate hospitals in cities counties or combinations thereof

GOVERNMENT SERVICES

ARMY

REDUCTION IN TRAINING PROGRAMS

A drastic cut in intern and residency training programs to be effected without endangering professional standards in Medical Department operation was announced March 28 by Major Gen Raymond W Bliss Army Surgeon General

"The curtailment is now possible as a natural culmination of rising professional standards and long range planning,' General Bliss said. "I believe this action will be gratifying to American medicine in general because of a fear that the Army was committed to a program of overspecialization" The reduction in intern and residency programs has no bearing on the recent closing of military hospitals but grows out of a long study of the Army s personnel needs

The original graduate program was established with the assistance of the American Medical Association and other medical advisory groups with the goal of training 30 per cent of the Army Medical Corps as specialists This quota was the same as that of the British Army and comparable to the American medical profession as a whole. Immediately after the close of the war, with the release of the many clinical specialists who were temporary officers, the Medical Department had only a handful of qualified Regular Army officers remaining Since this number was far too small to meet requirements, an extensive graduate training program was necessary With the initial phase of this program substantially completed, it is now possible to reduce the number in training

General Bliss reported, "A careful analysis of our requirements for specialists makes it possible to reduce our residency programs in many specialties and at the same time provide better qualified physicians to staff both our general and station hospitals In this regard, I wish to emphasize that fine professional training will continue to be available in the Army Medical Department There will still be opportunities for first year residencies in military hospitals to fill normal attrition. There will continue to be spaces in second and third year residency training for those students found best qualified by the residency selection board Residents scheduled for temporary overseas duty will return to their residencies In addition the training programs now maintained at all hospitals for their assigned personnel will continue to afford excellent professional training for all medical officers"

The professional training programs involved include civilian and military internships and residencies Training in the civilian programs are accomplished at civilian institutions with a commitment for military service following completion of training In the military programs, students receive their training in recognized Army general hospital teaching centers

The following reductions will be effected

Civilian internships a reduction from 300 to 200 by July 1 1950

Civilian residencies no new residents have been accepted since Jan. 1 1950 and the program will close by attrition

Military internships a reduction from 199 to 150 by July 1 1951

Military residencies a reduction of almost 50 per cent or a total of 245 by July 1 1951 including a recent slash of 131 residencies another *36 by July 1 1950 and an additional 66 by July 1 1951*

A reduction in the military residency program has been made possible by comparison of actual requirements in each medical specialty with the number actually on duty or expected to complete residency training The resultant quotas recognize both the importance of the Army Medical Department having an adequate supply of specialists to meet its needs and the undesirability of overspecialization

As a result of this analysis it will be possible to reduce spaces in urology, anesthesiology, general surgery, orthopedics, ophthalmology, otolaryngology, dermatology, medicine, pathology, radiology, plastic surgery and physical medicine. Increased spaces will be provided for psychiatry and clinical medicine (general practice) The resident selection committee in the Surgeon General's Office will continue to select residents for one year appointments and to advance those who are best qualified General Bliss indicated that the streamlining of the residency program might make the eventual consolidation of teaching centers possible with all residency training conducted in centers with the best facilities, clinical material and professional supervision

NAVY

RECORD NAVY HEALTH RATE

The Navy's health rate made a record low for the second consecutive year in 1949, according to the Navy Bureau of Medicine and Surgery, which has kept records since 1850 New low records were established for incidence of diseases, injuries, deaths and days lost from illness In 1949 the annual incidence rate for disease and injuries of all kinds among naval personnel dropped to 376 0 per 1,000 strength—a 15 per cent drop from the previous low of 442 8, set in 1948 Except for the last five years, during four of which the incidence rate was around 490 per 1,000, this rate has rarely dropped below 500 0 Fewer common colds and a 33 per cent reduction in venereal diseases contributed largely to the 1949 disease and injury record. The fact that the average person in the Navy lost less than a week s time, 6 7 days, from duty because of illness in 1949 constituted another new health record. The average number of days lost from illness varied from 8 to 15 per person during the years from 1900 through 1948 The death rate among naval personnel, which has maintained a downward trend since 1900 was 1 8 per 1,000 in 1949 This new low rate compares with the previous low of 1 9 in 1940 and 2 0 in 1948 The death rate in 1900 was 8 9 per 1 000

ANNUAL AWARD BY MARQUETTE ALUMNI

The Marquette University School of Medicine Alumni Association has named Comdr Thomas J Canty (MC), Head of the Mare Island Naval Hospital brace shop the Man of the Year for his work in developing artificial limbs for amputees Ceremonies were held on March 18 at the university in Milwaukee when the award was given The rehabilitation program developed by Commander Canty includes corrective conservative surgery and hospital care preprosthetic physical conditioning proper limb making and fitting training in correct and efficient use of the prosthesia, educational instruction psychologic aids and job placement Dr Canty a native of Milwaukee received his M D degree from Marquette University in 1935

DR. C P RHOADS, GUEST LECTURER

The fifth of the current series of guest lectures sponsored by the Naval Medical School Bethesda Md was presented March 31, when Dr C. P Rhoads of the Memorial Hospital Center for Cancer and Allied Diseases New York, spoke on Medical Aspects of Cancer Research

BCG Vaccine—Dr Robert G Bloch, professor of medicine, University of Chicago School of Medicine, has been appointed a member of the medical advisory committee of the Research Foundation of the University of Illinois The foundation is the nonprofit group subsidizing production and distribution of antituberculosis vaccine (BCG) at Tice Laboratory, Chicago BCG vaccine is supplied by Research Foundation to antituberculosis vaccination programs in 14 states, Alaska, Guam and the District of Columbia

Lectures in Chemotherapy—A lecture series on Frontiers in Chemotherapy will be presented by the Chicago Medical School on Wednesdays at 12 30 April 12 to May 31 Lectures are as follows

April 12 Oscar Felsenfeld Recent Advances in the Chemotherapy of Virus Diseases

April 26 Klaus R W Unna Antihistaminic Drugs

May 3 Carl C Pfeiffer Mode of Action of New Hypothermic Drugs

May 17 Alfred G Karlson Ph D Rochester Minn Recent Advances in Antibiotic Therapy with Special Reference to Tuberculosis

May 24 Leon O Jacobson Recent Developments in the Chemotherapy of Neoplastic Diseases

May 31 Jas A Smith Ph D, Autonomic Blocking Agents

MARYLAND

Annual State Meeting in Baltimore—The Medical and Chirurgical Faculty of the State of Maryland will convene in Osler Hall, Baltimore April 24-26, under the presidency of Dr A Austin Pearre, Frederick The Ridgeway Trimble Fund Lecture will be given at the evening meeting Tuesday by Dr Howard A Rusk, chairman of the department of physical medicine and rehabilitation New York University-Bellevue Medical Center, on "Medicine's Number One Problem" A symposium on "Psychosomatic Medicine in Relation to the Gastrointestinal Tract will be held Tuesday afternoon with Dr Louis A M Krause Baltimore, as moderator Participants, all of Baltimore will be Drs Helen H Arthur, Ephraim T Lisansky of the University of Maryland and Markus M Ravitch of Johns Hopkins University

MASSACHUSETTS

Public Health Meeting—"Looking Ahead in Public Health" will be the theme of the Massachusetts Public Health Association's spring meeting at Hayden Auditorium of Boston University on April 25 Section meetings, which will include discussions on cerebral palsy, care of the aged, industrial health, sanitation, intercommunity reporting of diseases dangerous to the public health and group dynamics, will be held from 3 30 to 5 30 p m, followed by dinner at 6 p m The topic of the general evening session will be multiphasic screening Special events commemorating the 60th anniversary of the association are scheduled

Shattuck Award Instituted—Creation of the Lemuel Shattuck Award to be given annually in recognition of "distinguished' service by a New Englander in the broad field of public health has been recently announced by the Massachusetts Public Health Association The first award for outstanding service will be presented at the sixtieth anniversary meeting of the association at Boston University April 25 Other events commemorating founding of the association also have been planned Dr Hugh R Leavell, professor of public health practice, Harvard School of Public Health, Boston, is chairman of the Shattuck Award Committee, who will name this year's recipient

New Psychiatric Outpatient Department—A new psychiatric outpatient department affiliated with the Boston State Hospital was opened February 15 for diagnosis and treatment of emotional problems of adults The clinic, sponsored by Dr Walter E Barton, superintendent of the hospital, will operate on a full time basis under the direction of Dr James Mann, senior psychiatrist of the hospital, with a staff of two social workers, a psychologist and two clerks The clinic honors the name of the late Dr L Vernon Briggs, a pioneer in fostering the creation of clinic facilities for psychiatric patients The aim of the clinic is to apply principles of preventive mental hygiene to emotional problems before they become so disabling as to require hospitalization

MONTANA

Society Honors Health Officer—A dinner honoring Dr Frank D Pease, retired, public health officer for Missoula county and city for about 40 years, was given by the Western Montana Medical Society February 13 Dr Pease graduated from the Jefferson Medical College of Philadelphia in 1893 and came to Missoula in 1905 Present at the meeting were three members of the staff of the U S Public Health Service of Hamilton Laboratories and a representative of the state board of health

NEBRASKA

State Medical Meeting in Lincoln.—The Nebraska State Medical Association will hold its annual meeting May 1-4 at the Hotel Cornhusker in Lincoln, under the presidency of Dr Joseph C McCarthy, Omaha Visiting speakers include

Harold J Kullman Detroit Management of Ulcerative Colitis

Osborne A Brines Detroit *Unusual Metastatic Tumors*

Grover C Penberthy Detroit, Surgical Problems of the Abdomen in the Newborn and Infant

Carl P Huber Indianapolis Endometritis

Lyman T Meiks Indianapolis Common Problems of the Newborn

John A Campbell Indianapolis, Use of X Ray in Obstetrics and Gynecology

Sprague H Gardiner, Indianapolis, Psychosomatic Problems in Obstetrics and Gynecology

Arthur L Miller, Washington D C, Subject to be announced

William J Grace, New York Relation of Life Stress to Colonic Function and to the Pathogenesis of Ulcerative Colitis

Lawrence E Hinkle Jr, New York, Relation of Life Stress to Ketone, Glucose and Water Metabolism Pathogenesis of Diabetic Acidosis in Humans

Stewart G Wolf Jr, New York, Relation of Life Stress to Gastric Function and the Pathogenesis of Peptic Ulcer

On Tuesday afternoon the Detroit physicians, all of Wayne University College of Medicine, will present a panel discussion on "Massive Hemorrhage from the Upper Gastrointestinal Tract," with Dr Charles W McLaughlin Jr, Omaha, as moderator The Indianapolis physicians from the Indiana Medical Center will take part in a panel discussion on "Prolonged Labor" Wednesday afternoon with Dr Daniel P McCleery, Beatrice, acting as moderator The New York physicians will present a panel discussion on "Leading Factors in the Medical Management of Gastrointestinal Disorders, Cardiospasma, Dyspepsia, Peptic Ulcer, Mucous and Ulcerative Colitis" Thursday afternoon with Dr Julian E Meyer, Columbus, as moderator The Woman's Auxiliary will meet at the hotel May 1-2 The banquet will be Wednesday at 7 p m

NEW MEXICO

Medical Society to Investigate State Institutions—The New Mexico Medical Society was recently granted the privilege by the governor of the state to investigate the health facilities and medical care and treatment of persons in all state-supported institutions The request by the society to inspect these institutions was prompted by charges of mistreatment of patients and mismanagement Dr James W Hannett, president of the medical society, has appointed three committees to investigate the state institutions Drs Carl H Gellenthien of Valmora, Albert S Lathrope of Santa Fe and Alan Jacobson of Albuquerque, Drs Erich P Hausner of Santa Fe, Percy G Cornish of Albuquerque and Harold M Mortimer of Las Vegas, Drs George S Morrison of Roswell, Rodger E MacQuigg of Albuquerque and William L Minear, Hot Springs A written report of these committees will be submitted to the governor of the state, to the various boards in charge of the institutions and to the New Mexico Medical Society

NEW YORK

University Appointment—Dr Gordon K Moe, Ann Arbor Mich, has been appointed professor of physiology at the State University of New York College of Medicine in Syracuse He graduated from Harvard Medical School, Boston, in 1943 From 1944 to 1946 he was assistant professor of pharmacology at the University of Michigan Medical School in Ann Arbor and was promoted to associate professor in 1946

Grant for Rheumatic Fever Research—The College of Medicine of New York University-Bellevue Medical Center has received a grant of $62,532 from the Free and Accepted Masons of New York to be used for research on rheumatic fever and allied diseases This is the second grant made by the organization to the college, the first amount to $62,500 was made about a year ago This bring to $500,000 the total figure which the fraternal order has contributed to the various institutions for research in this disease

Dedicate Research Laboratories—Dedication of the Research Laboratories of Sterling-Winthrop Research Institute at Rensselaer will take place at 2 p m May 17-18 The program will be followed by a symposium "The Shape of Things to Come" in which Drs Otto Loewi and Rene J Dubos of New York and Wendell M Stanley, Sc D, Berkeley, Calif, will discuss the next half-century in pharmacology, microbiology and virology, respectively A dinner is scheduled at 7 15 p m at the DeWitt Clinton Hotel in Albany At 10 a m on Thursday the symposium will be concluded with Dr Albert von Szent-Gyorgyi of Bethesda, Md, and Drs Cornelius P Rhoads and William Dock, both of New York, discussing the next half-century in biochemistry, cancer research and clinical medicine, respectively

New York City

Seventh Harvey Lecture.—Isidore Gersh, Ph D, associate professor of anatomy at the University of Chicago, will deliver the seventh Harvey Lecture of the current series at the New York Academy of Medicine April 20 on "Ground Substance and the Plasticity of Connective Tissues"

Society Election.—Dr William G Childress physician in charge of the Tuberculosis Division of Grasslands Hospital, Valhalla has been reelected chairman of the Tuberculosis Sanatorium Conference of Metropolitan New York Donald E Porter, head of the Tuberculosis Division of the New York Tuberculosis and Health Association was elected secretary, and Godias J Drolet, assistant director of the tuberculosis association, was named consulting statistician

Dr Best Delivers Herter Lecture.—Dr Charles H Best, Toronto, Canada co discoverer of insulin delivered the forty-seventh annual Christian A. Herter Lecture at New York University College of Medicine. Dr Best professor of physiology at the University of Toronto spoke March 20 on "Hormonal and Dietary Factors in the Control of Fat Deposition" and on March 21 on "Recent Work on Insulin" The Herter Lectureship was established by Dr Herter, former professor of chemical pathology in 1904, to provide annual lectures on advances in medical science

OHIO

Dr Ashe Resigns.—Dr William F Ashe associate professor of industrial medicine at the University of Cincinnati College of Medicine, has resigned to become chief of the medical service of the Holzer Clinic and director of the department of internal medicine of the Holzer Hospital in Gallipolis Dr Ashe came to Cincinnati from Western Reserve University School of Medicine, Cleveland, in 1938 In 1940 he became instructor in medicine and research associate in applied physiology at the College of Medicine. After World War II he returned to the university to a dual appointment in the College of Medicine's department of internal medicine and in the Kettering Laboratory of Applied Physiology, where he has been engaged in the development of postgraduate medical education and research in the field of industrial health

PENNSYLVANIA

State General Practice Meeting.—The Pennsylvania Academy of General Practice will hold a meeting May 24-26 in Harrisburg The speakers will be

Joseph Seifter Philadelphia Use of Steroids in Treatment of Arthritis
Earl D Osborne Buffalo Common Skin Diseases
A. Wilmot Jacobson Buffalo Management of Endocrine Defects in Children
Alexander Brunschwig New York Malignancy as Seen by the General Practitioner
Perry S MacNeal Philadelphia Headaches

Public Health Appointments.—Dr Cleon J Gentzkow, Phoenixville, has been appointed director of the Bureau of Laboratories of the Pennsylvania Department of Health. He served in the U S Army Medical Corp in World Wars I and II Dr Robert H Ivy, Philadelphia, is head of the new Cleft Palate Division of the department He is a graduate of the University of Pennsylvania School of Medicine, Philadelphia (1907), and also holds a degree in Doctor of Dental Surgery from the university The new chief of the Crippled Children's Division of the department is Dr Franklin E Chamberlin of Glen Olden A graduate of Temple University School of Medicine, Philadelphia (1922), he has been chief of surgery including orthopedic surgery at Taylor Hospital in Ridley Park and Fitzgerald Mercy Hospital in Upper Darby

Philadelphia

Appointed al **Board**—Dr John P Hubbard
assumed the ıssociate secretary on the executive
staff of the of Medical Examiners Philadelphia,
on March 1 ation as director of the Committee
for the Imp Health of the American Academy
trı will also be professor of public
and and head of the department of
on a part time basis on April 1
in bruary 18 page 496

ve **Strittmatter Award**—
the Henry Phipps Institute
ention of tuberculosis has
County Medical Society to
ittmatter Award April 12
Street at a joint meeting
hia The award, consist-
established in May 1923
to any physician making a valuable contribution to the healing art, including remedial measures surgical medical or contribution to one of the fundamental sciences of medicine having a beneficial influence on either surgery or medicine, or for any extraordinary meritorious service redounding to the credit of the medical profession. Last year's recipient was Dr Catharine Macfarlane

Hospital Hearing Project.—Medical authorities at the University of Pennsylvania have instituted a new hearing project for those persons whose hearing defects are severe enough to constitute job handicaps In the hearing center set up in the hospital of the university in cooperation with the Bureau of Vocational Rehabilitation of the State of Pennsylvania, classes are being organized for men and women in the 16 to 65 age group Members are required to spend a minimum of 25 hours weekly in hearing reclamation procedures Auditory training includes speech correction lip reading psychology and the anatomy and physiology of hearing Tests are given and recommendations are made as to the choice of an effective hearing aid device. The project is supported by the Federal Security Agency under the administration and supervision of the Pennsylvania State Board of Vocational Education

TENNESSEE

First Pilcher Memorial Lecture.—Pi Chapter of the Phi Chi medical fraternity will inaugurate the Cobb Pilcher Memorial Lectureship April 13 at 8 p m in the amphitheater of the Vanderbilt University School of Medicine, Nashville, when Dr Percival Bailey of the University of Illinois College of Medicine, Chicago, will speak on "The Structure and Function of the Cerebral Cortex" This lectureship has been established in memory of Dr Cobb Pilcher former neurosurgeon and associate professor of surgery at Vanderbilt who died in September 1949

State Medical Meeting at Memphis.—The Tennessee State Medical Association will hold its annual meeting at the Hotel Peabody in Memphis April 10 12 under the presidency of Dr Nathaniel S Shofner, Nashville. Guest speakers include

Ralph V Platou New Orleans Prenatal Influences
Ralph P Townsend Yonkers N Y Etiologic Aspects of Enuresis
Elmer L Henderson Louisville Ky
R B Robins Camden Arkansas The Citizenship Responsibilities of the Physician
William B Seaman St Louis The Pulmonary Vessels in Roentgenologic Diagnosis

Tuesday morning there will be a symposium on the "Use of Isotopes in Polycythemia Vera and Certain Diseases of the Thyroid," with Dr George T Wilhelm Knoxville as moderator On Wednesday morning a symposium on Gastrointestinal Diseases" is scheduled, with Dr Fay B Murphy Chattanooga as moderator The annual banquet will be Wednesday at 7 p m The Women's Auxiliary will meet April 11-12 Various special state societies will hold meetings at this time

TEXAS

New Dean of Southwestern.—Dr Carl A Moyer will become dean of Southwestern Medical School of the University of Texas on September 1 He will succeed Dr W Lee Hart who will retire on August 31 At the same time Dr Atticus J Gill of the university will become associate dean Dr Moyer a graduate of the University of Michigan Medical School Ann Arbor (1937), will continue as professor of experimental surgery He has been a member of the Southwestern medical faculty since 1945 Dr Gill, associate professor of surgical pathology will continue his teaching position also He is a graduate of New York Medical College, New York (1938), and has been on the faculty since 1943

Meetings on Cancer and Pathology.—Three meetings of interest to scientists and physicians will be held at the Texas Medical Center Houston May 12-13 Featured speakers will be Dr Albert C Broders of the Mayo Clinic Rochester, Minn Dr Marshall Brucer of the Oak Ridge (Tenn) Institute of Nuclear Studies and Dr Cornelius P Rhoads of Memorial Hospital, New York. The meetings include (1) the fourth annual symposium on fundamental cancer research of the University of Texas M D Anderson Hospital for Cancer Research Houston during which one half day will be devoted to selected papers on the subject of isotopes in cancer research (2) a cancer pathology conference of the University of Texas Postgraduate School of Medicine on Tumors of Muscle Origin and (3) a south central regional meeting of the College of American Pathologists with co-participation in the symposium and pathology conference. Dr Rhoads is the banquet speaker the evening of May 12 Further information may be obtained from William O Russell M D 2310 Baldwin Street, Houston 6

VIRGINIA

Dr Allan Heads Orthopedic Department —Dr John H Allan, associate professor of orthopedics at the University of Pennsylvania School of Medicine, Philadelphia, will take over his duties at the University of Virginia Department of Medicine, Charlottesville, July 1 as professor of orthopedics and chairman of the department He succeeds the late Dr Robert V Funsten Dr Allan received his medical degree from Johns Hopkins University School of Medicine Baltimore in 1933 He is chief of the orthopedic department at St Christophers Hospital for Children, the Germantown Hospital, and the Chestnut Hill Hospital in Philadelphia

WEST VIRGINIA

Society News —The third annual meeting of the West Virginia Academy of Ophthalmology and Otolaryngology will be held at the Greenbrier, White Sulphur Springs, May 8-9

Mr Simons Dies —Mr Algie M Simons, assistant director of the Bureau of Medical Economics from March 1932 until his retirement in October 1944, died at his home in New Martinsville, W Va March 11 aged 79 While at the American Medical Association Headquarters he compiled "Index and Digest of Official Actions of the American Medical Association 1904-1942 ' He was the author of "The American Farmer," "Class Struggles in America," "Social Forces in American History," "Wasting Human Life," "Personnel Relations in Industry" and 'Production Management '

State Health Conference —The annual State Health Conference will be held at the McLure Hotel in Wheeling May 4-5 Topics to be discussed on the first day are "Health Protection for All "The Local Board of Health and Selling Health to the Community ' On the second day papers will be presented on 'The Community's Stake in the School Health Program," 'Providing Public Health Training for West Virginians and "Community Mental Health Is Everybody's Job" Section meetings will be held each afternoon on health administration public health nursing, industrial hygiene, sanitation, public health education, human relations and clerical and vital statistics The annual banquet is scheduled for Thursday evening

WISCONSIN

Personal —Dr Harry E Kasten of Beloit has retired as president of the Stateline Council of Boy Scouts, a position he has held 14 years He has been active in scouting work 28 years

Navy Doctor to Receive Marquette Alumni Award —Comdr Thomas J Canty (MC, USN), officer in charge of the amputation program at the Mare Island Naval Hospital, Vallejo, Calif received the annual Marquette University Alumni Award of the medical school for outstanding work in rehabilitation of the physically handicapped March 18 in Milwaukee Commander Canty has been instrumental in the development of many improvements in artificial limbs and orthopedic devices Some 33 research projects are currently being studied under his direction He is credited with establishing one of the first rehabilitation centers for naval war casualties at the U S Naval Hospital, Sun Valley, Idaho The commander received his M D degree from Marquette University School of Medicine, Milwaukee, in 1936

Integrate State and Medical School Program —The University of Wisconsin regents on March 11 approved the integration of the Mental Hygiene Division of the state board of public welfare and the Wisconsin Psychiatric Institute of the University Medical School Dr Leslie A Osborn, head of the University of Buffalo psychiatry department, was appointed director of the joint program and professor of psychiatry, effective July 1 Dr William F Lorenz, Madison, present director of the Wisconsin Psychiatric Institute, who is within a few years of the retirement age, will continue his current functions related primarily to the laboratory services of the institute Dr Osborn was graduated with honors from the University of Melbourne Faculty of Medicine, Australia, and also received an M D from the University of Buffalo School of Medicine in 1945 He has been attending psychiatrist at the Edward J Meyer Memorial Hospital, Buffalo, since 1941 He was certified by the American Board of Psychiatry and Neurology in 1944 Action by the last legislature to remove financial limitations and planning sessions between Dean William S Middleton of the university medical school and other state officials resulted in the integration program between the medical school and the board of public welfare

GENERAL

Physical Medicine and Therapy —The New England Society of Physical Medicine and the Rhode Island Chapter, American Physical Therapy Association will meet at the Veterans Administration Hospital, Davis Park, Providence, R I, April 19 at 7 30 p m Subjects under discussion will be "The Physical Treatment of Ultraviolet Light Allergy ' and "A Method of Rapid Progressive Neuromuscular Reeducation" Physicians and physical, occupational and correctional therapists are invited

Industrial Journal Names Editors —Dr Carey P McCord, Detroit, has been recently appointed consultant editor and Dr Jean S Felton, Oak Ridge, Tenn, as editor of *Industrial Medicine and Surgery* Dr McCord is medical director of the Industrial Health Conservancy Laboratories in Detroit and Dr Felton, medical director of the Oak Ridge, (Tenn) National Laboratory Appointments were made to fill the vacancy made by the death of Dr Clarence O Sappington, who was editor since its inception in 1932

Meeting of Societies for Experimental Biology —The Federation of American Societies for Experimental Biology will meet in Atlantic City, N J, April 17-21 with headquarters at the Hotel Traymore The federation is composed of the American Physiological Society, American Society of Biological Chemists, American Society for Pharmacology and Experimental Therapeutics, American Society for Experimental Pathology, American Institute of Nutrition and the American Association of Immunologists Scientific sessions will be held in Convention Hall

Aniseikonia Patents Dedicated to the Public —The United States Patent Office recently announced that the Hanover Institute of Hanover, N H, does "assign, transfer, give and dedicate the following Letters Patent and the inventions therein specifically claimed to the people of the United States of America for public use forever" The twenty-six patents listed were granted while the Dartmouth Eye Institute was interested mainly in problems of binocular vision, especially aniseikonia Copies of the patents may be obtained from the U S Patent Office, Washington 25, D C, for 25 cents

International Dermatology Congress —The Tenth International Congress of Dermatology will be held in London during the summer of 1952, under the presidency of Sir Archibald Gray A preliminary program will be prepared during the current year As a result of the disruption produced by the last war, addresses of the secretaries of certain dermatologic societies are not available, so that all those interested are asked to communicate with the General Secretary, Dr Gordon B Mitchell-Heggs, at the Institute of Dermatology, St John's Hospital for Diseases of the Skin, Lisle Street, Leicester Square, London, W C 2

Therapeutic Society Meeting —The annual meeting of the American Therapeutic Society will be held in Boston, April 13-16 under the presidency of Dr Daniel L Sexton of St Louis A symposium on ACTH and cortisone will be presented Friday afternoon with Drs Willard O Thompson, Chicago, George W Thorn, Boston, W Paul Holbrook and Donald F Hill, Tucson, Ariz, and Francis M Pottenger Jr, Monrovia, Calif, as the participants The president's reception at 7 30 p m April 15 will be followed by the annual banquet at the Copley Plaza The dinner speaker will be Dr Leland S McKittrick, Brookline, Mass, on the subject "The Doctor Has a Patient"

Fellowships in Rheumatic Diseases —The New England chapter of the Arthritis and Rheumatism Foundation is supporting clinical fellowships to physicians practicing or intending to practice in New England The fellowships of 3 to 12 months involve participation in staff work by assignment to arthritis clinics in Boston and carry a $300 to $500 per month stipend Applicants must be graduates of class A medical schools in the United States who have completed at least one year's internship Applications should be directed to Dr Hans Waine, Medical Director, New England Chapter, Arthritis and Rheumatism Foundation, 201 Devonshire Street, Boston

Surgical Meeting —Dr Carl C Howard of Glasgow, Ky, was elected president of the Southeastern Surgical Congress at the annual meeting in Washington, D C, March 6-9 Dr Joseph S Stewart of Miami, Fla, was named president-elect, and Dr Benjamin T Beasley of Atlanta, Ga, was reelected secretary-treasurer In his presidential address, Dr Robert J Wilkinson, Huntington, W Va, called for an end to the treatment in veterans hospitals of veterans with non-service-connected disabilities He recommended that a large number of the hospitals be turned over to states and communities to help alleviate the acute shortage of beds Dr Wilkinson's proposals were endorsed officially in a resolution adopted by the congress

Thoracic Surgeons' Meeting—The American Association for Thoracic Surgery will meet April 15-18 at the Cosmopolitan Hotel in Denver, under the presidency of Dr Edward J O'Brien Detroit Among others the following papers will be presented

Edward D Churchill Richard H Sweet Lamar Soutter and John G Scannell Boston Surgical Management of Carcinoma of the Lung
Brian B Blades Edward J Beattie Jr and (by invitation) William Elias, Washington D C Surgical Treatment of Intractable Asthma.
Ross Robertson and Thomas R Sarjeant, Vancouver B C Reconstruction of the Esophagus
Robert C Laird and Charles E Lindenfield Toronto Canada One Stage Thoracoplasty for Pulmonary Tuberculosis

The banquet is scheduled for Sunday at 8 p m.

Viral and Rickettsial Registry—This registry has been instituted to fill the growing need for an available stock of documented viral and rickettsial agents Through generous cooperation and contributions by numerous investigators prepared specimens of selected viruses and rickettsiae are ready for distribution through the American Type Culture Collection, 2029 M Street, N W Washington 6 D C A catalog of the viral and rickettsial agents available with their histories costs, methods of shipment and other pertinent data may be obtained from the Culture Collection on request This information is not included in the fifth edition of Catalogue of Cultures" released in 1949 (THE JOURNAL, Nov 19 1949, page 848)

Music Foundation Seeks Funds—The Music Research Foundation, a nonprofit membership corporation dedicated to the development of music as an adjunctive form of therapy in the fieds of medicine and psychiatry plans an intensive membership drive to assist in raising funds to expand its work The foundation has determined to broaden the field of its investigations and make available fellowships for study in conjunction with affiliated hospitals universities and other medical and psychiatric channels Contributions may be sent to the treasurer Charlotte Willkie Pihl or to Gladys Swarthout, chairman of membership at national headquarters 654 Madison Avenue, where additional information may be obtained

WHO Names New Assistant Director-General—Major Gen. Sir Sahib Singh Sokhey director of the Haffkine Institute at Bombay India has been appointed assistant director-general of the World Health Organization The institute specializes in serum and vaccine production Dr Sokhey s work has included clinical studies on the treatment of bubonic plague and cholera. He was formerly a member of WHO s Expert Committee on Biological Standardization and the Expert Committee on Plague. He studied at Edinburgh London Johns Hopkins Harvard Medical School Cambridge University and University of Toronto Faculty of Medicine Dr Sokhey will replace Dr Raymond Gautier, whose retirement was recently announced

Board Associate Examiners —The American Board of Obstetrics and Gynecology announces that the following physicians will serve as associate examiners at the coming oral and pathology examinations to be held at the Shelburne in Atlantic City, N J, May 21-28 inclusive Drs C A Behney, Los Alamos N M, Leroy A Calkins Kansas City Kan Samuel A Cosgrove, Jersey City N J Russel R deAlvarez, Portland, Ore. Josiah R. Eisaman Pittsburg Pa. George H Gardner, Chicago Ward F Seeley Detroit John W Harris, Madison Wis, Andrew A Marchetti Washington D C, John L Parks Washington D C Ralph A Reis Chicago, Herbert E Schmitz Chicago and Frank E Whitacre Memphis, Tenn

Tuberculosis Association Meeting—The forty-sixth annual meeting of the National Tuberculosis Association will be held April 24-28 at the Hotel Statler Washington D C Meeting concurrently will be the American Trudeau Society and the National Conference of Tuberculosis Secretaries Medical sessions will be devoted to the chemotherapy of tuberculosis, surgical aspects of tuberculosis laboratory investigations and nontuberculous diseases of the chest Tentative plans for the public health sessions are for discussion of the nonhospitalized patient evaluation of communitywide programs and new developments in community health organization Public health exhibits will be displayed throughout the meeting Information may be obtained from the National Tuberculosis Association 1790 Broadway, New York 19

Drs Kendall and Hench Receive Passano Award—The Passano Foundation announces a $5 000 cash award for 1950 to Edward C Kendall Sc D, and Dr Philip S Hench both of the Mayo Clinic, Rochester, Minn., for studies in clinical physiology as related to the administration of cortisone and related hormones The award will be presented at the annual award dinner at the St Francis Hotel in San Francisco on June 28 when Dr Elmer L. Henderson Louisville Ky, President-Elect of the American Medical Association, will speak, and officers of the association will be guests The Passano Foundation was established in 1943 by the Williams & Wilkins Company medical publishers Baltimore to aid in the advancement of medical research, especially that which bears promise of clinical application. There have been five previous award

American Surgical Association.—This association will hold its annual meeting at the Broadmoor Hotel in Colorado Springs April 19-21 under the presidency of Dr Thomas G Orr, Kansas City Kan Papers to be presented by a single author are as follows

Isadore S Ravdin, New York, Studies on Liver Injury and Liver Repair
Alfred Blalock, Baltimore Treatment of Valvular Pulmonic Stenosis by the Method of Brock
J William Hinton New York, End Results of Physiologic Versus Pathologic Operative Procedures for Chronic Duodenal Ulcer During the Past Two Decades
Frank Glenn New York Secondary Operations for Duodenal Ulcer A Review of 125 Cases
Donald R Webster Montreal Quebec Canada Effect of Potassium Deficiency in the Gastrointestinal Tract
Bradford Cannon Boston Management of Pressure Sores Following Spinal Cord Injuries

Meeting on Reproduction Problems—The Committee on Human Reproduction of the National Research Council will hold its annual two day conference at the Hotel Commodore New York, May 22-23 The subject for this year will be testis and ovary eggs and sperm Among the speakers will be David W Bishop Ph D, University of Massachusetts Amherst, Leslie C Dunn, Sc.D., Herbert O Elftman Ph D., and Earl T Engle, Ph D, Columbia University New York Helen W Deane Ph D, Harvard Medical School Boston, Henry A Lardy Ph D., University of Wisconsin Madison, John McLeod Ph.D, Cornell University Medical College, New York Warren O Nelson Ph D., University of Iowa College of Medicine Iowa City Jack Schultz, Ph.D, Cancer Research Institute Philadelphia and George D Snell, Sc.D., Jackson Memorial Laboratory, Bar Harbor Maine.

Incidence of Influenza—For the week ended March 18 reported cases of influenza in the nation increased from 27 045 to 29 036 according to the U S Public Health Service. For the corresponding week last year 3 780 cases were reported The five year (1945-49) median is 4 054 The cumulative total is 144 982 as compared with the corresponding total of 49 087 for 1949 and 169 936 for 1946, the highest year during the last five years Relatively large increases for the current week over the previous week were reported in Arkansas (788 to 1 465) District of Columbia (0 to 30) Indiana (1 to 71) Kansas (71 to 316), Kentucky (13 to 91), Maryland (19 to 61), New Mexico (1 to 58) New Jersey (8 to 24) and New York (19 to 49) The 10 highest states and the number of cases reported are Texas 10 530 Virginia 7 859 West Virginia, 2 654, Oklahoma 1 654 Arkansas 1 465 Tennessee, 854 Alabama 816 South Carolina 407, Georgia 330 and Kansas 316 The total cases reported by these 10 states is 26 895 Among the other states eight reported no cases

Appointed to Health Information Foundation.—Mr Kenneth Williamson Chicago formerly assistant director of the American Hospital Association has been appointed executive secretary of the Health Information Foundation, New York. The foundation, sponsored by the pharmaceutical drug and allied industries was formed last month as a fact finding organization to study methods by which health facilities may be made available to all Americans without financial hardship Mr Williamson has worked in the hospital and health insurance fields for many years Educated in business administration at the University of California at Los Angeles and the University of Southern California, he has been an administrative assistant in several hospitals was executive director of the Association of California Hospitals and the Association of Western Hospitals and in 1943 joined the American Hospital Association in Chicago as secretary of its council on association relations He subsequently became the association s assistant director and secretary on administrative practice and last year became its assistant director in charge of program planning

American Documentation Institute—This institute has published the first issue of the periodical *American Documentation* a quarterly review of ideas technic problems and achievements in documentation edited by Vernon D Tate, Ph D., of the Massachusetts Institute of Technology in Cambridge Mass and associate editors The new periodical aims to furnish a clearing house for information about documentation from any source, to publish original research provide bibliographic and other control of the literature and serve as a medium for national and international cooperation and exchange of documentation. The institute will accept complete and detailed papers which are too bulky for publication in the average journal and will make them a permanent deposit of the institute available to anyone interested Publication of the journal is on a cooperative, nonprofit basis Subscription rates are $5 per year in the United States and abroad, single copies are $1 50 Payment should be made to American Documentation, 1719 N Street N W, Washington, D C Manuscripts should be directed to the editor, 77 Massachusetts Avenue, Room 14 S 216, Cambridge 39, Mass

Borden Awards—During 1949 Borden Awards of a gold medal and $1,000 for outstanding contributions to scientific research were presented to nine American scientists The awards are administered by eight professional and scientific associations Those having medical implications are as follows Dr Fuller Albright, associate professor of medicine, Harvard Medical School, Boston, received the award through the Association of American Medical Colleges "for extraordinarily original and monumental contributions to the understanding of the metabolism of bone and other tissues and their relation to the renal and endocrine factors which control them" Kate Daum Ph D, director of the department of nutrition, University Hospitals and associate professor of theory and practice of medicine State University of Iowa College of Medicine, Iowa City received the award through the American Home Economics Association 'for studies on influence of various levels of thiamine intake on physiologic response" Harry J Deuel Jr, Ph D dean of the Graduate School University of Southern California, received the award through the American Institute of Nutrition 'for researches pertaining to the metabolism of carbohydrates, particularly lactose and galactose, the metabolism and comparative nutritive values of fats and fatty acids, particularly those found in milk the interrelationship of carbohydrate and fat metabolism, the effect of vitamin A and provitamin A intake on the vitamin A content of milks, and the site of conversion of carotene to vitamin A in the animal body" Dr Alfred H Washburn director, Child Research Council of Denver and research professor of pediatrics University of Colorado, received the award through the American Academy of Pediatrics "for significant research on the blood of infants and children and his continuing studies of growth and development of the young over the important span from birth to adolescence" The Borden Awards were established in 1936, a total of 81 presentations have been made

Physicians Training Against Atomic Warfare—A nationwide program of medical preparedness against atomic warfare was launched at the University of Rochester (N Y) School of Medicine and Dentistry on March 27 About 30 selected physicians from seven states took part in an intensive, week-long civilian defense course at the university's new million dollar atomic energy project, in which all phases of atomic injuries and treatment were covered The nationwide project was organized by the National Security and Resources Board in cooperation with the Atomic Energy Commission A similar program was conducted at Johns Hopkins University School of Medicine, Baltimore, at the same time, and other courses will be given later at the medical school of the University of California at Los Angeles, the University of Alabama in University, Western Reserve University in Cleveland, the University of Utah in Salt Lake City and at the Argonne National Laboratory Physicians chosen to participate will serve as a nucleus of trained physician teachers to direct training and organization of doctors, nurses, dentists and allied professions in their respective states Each state will send qualified representatives of teachers in class A medical schools, physicians from each state health department, from osteopathic colleges, from the largest association of physicians and from cities having a population of 100,000 or more which are at least 75 miles from the nearest accredited medical school The latter representatives will set up defense programs in their own cities

Subjects covered in the training program include the biologic, pathologic and genetic effects of radiation, the medical aspects of atomic explosions, mechanical and thermal injuries, radiation detection devices and their use, radiation therapy, practical considerations in dealing with an atomic bomb catastrophe and psychologic factors such as mass hysteria resulting from atomic disasters The AEC is responsible for the initial regional training program, and each state later will conduct its civilian defense training project to be organized and led by the medical representatives who attend the key regional sessions The purpose is to provide at the state level a nucleus of physician-teachers trained in the medical aspects of atomic warfare The Rochester Atomic Energy Project, financed by the AEC, was built as a center for the commission's program to train physicians and technicians in medical problems relative to atomic energy development It is one of three major health projects supported by the AEC, the other two being at the University of California at Los Angeles and Argonne National Laboratory

LATIN AMERICA

Argentinian Congress of Radiology—The Second Argentinian Congress of Radiology will be held at Tucuman, Argentina, May 27-31 Subjects under discussion include Tumors of the Colon, Cancer of the Esophagus, Retroperitoneal Emphysema, Radiologic Exploration of the Venous System, Hodgkin's Disease, Radiotherapy and Artificial Radioactive Substances in Medicine Physicians discussing these topics include Diego Fernandez Luna, Alvaro Bence, Jorge A Taiana, Abel N Canonico, J Horacio Resano, and Alfredo Givre, all of Buenos Aires, Dr Angel M Usandivaras of Tucuman, S Di Rienzo, Lazaro Langer and Alejandro Juri of Cordoba, Eduardo S Fiorito, Victor Coria, Victor Ananos, Ricardo Fiorito, Ricardo Puig, Luis F Diez and A Babini, all of Rosario, Lidio G Mosca and Roberto Alvarez of Santiago del Estero, Raul Mayer of Santa Fe, Julio C Barani, Juan J Scandroglio, Eugenio C Zebroni and Mario Cassinoni, all of Montevideo, Uruguay, Drs Manuel Antonio Ambrad of Cartagena, Colombia, and Quirno Cadas Thompson of Asuncion, Paraguay Information will be obtained at the Executive Committee Headquarters, Gral Paz 151, Cordoba, Argentina

FOREIGN

Paris Medical Days—The University of Paris Faculty of Medicine will observe annual Medical Days of the Medical Clinic at Broussais' Hospital in Paris, under the direction of Prof Pasteur Vallery-Radot May 19-21 Conferences will be held by clinicians and laboratory men Registration should be made in advance, the inscription fee of 2,000 francs should be sent to Prof Jean Hamburger, 29, Boulevard de Courcelles, Paris 8e

Demonstrate Malaria Control in Iran—*A full scale malaria control demonstration will soon begin in Iran under a World Health Organization team headed by Prof Mario Giaquinto The campaign will form part of a seven year plan for economic development undertaken by the Iranian government Malaria is considered the most serious public health problem in all rural areas of the country The campaign was started by the government and will be enlarged with WHO assistance. Professor Giaquinto of Rome has worked in Ethiopia for 14 years, most recently as director of the Imperial Ethiopian Medical Research Institute at Addis Ababa*

Deaths in Foreign Countries

Sir Charles Gordon-Watson, for many years surgeon at Bartholomew Hospital in York, England, and long identified with the British Empire Cancer Campaign, died December 19, aged 75——**Dr William D Cruikshank**, who was on the staff of the American University in Beirut, Lebanon, for twenty years and was director of public health service for the government of Syria following World War II, died February 2 in Beirut, aged 65——**Dr Assadour-Aram Altounyan**, who had practiced in Aleppo, Syria for 66 years and opened a clinic which eventually became a modern hospital in the province of Syria, died January 12 in Aleppo, aged 93 Dr Altounyan received his medical degree from the Columbia University College of Physicians and Surgeons, New York, in 1883 He was a fellow of the International College of Surgeons

CORRECTION

Anesthesia for Patients with Pulmonary Emphysema—The index reference to the article by Dr Perry P Volpitto and Dr John M Brown of Augusta, Ga, entitled "Choice of Anesthesia for Patients with Pulmonary Emphysema," was inadvertently omitted from the front cover of THE JOURNAL of March 25, 1950 This article appeared on page 897 in that issue

Marriages

DERMOTT ANDREW PAUL SMITH, Washington, D C, to Miss Marie Antoinette O'Kane of St Louis, recently

KEVIN BARTHOLOMEW O'MALLEY, Bala-Cynwyd, Pa, to Miss Irene Ann Allen of Cleveland, January 31

LOCKERT BEMISS MASON, Richmond, Va, to Miss Mary McLean of Clinton, N C, February 18

MILTON LEONARD KOBROSKY to Miss Elaine Harriet Albert, both of Springfield, Mass, February 8

LOVICK EDSEL DICKEY JR, Sylvania, Ga, to Miss Luella Lewis at Forrest City, Ark, recently

Deaths

Eldridge Lyon Eliason ⊕ Philadelphia, born in Chestertown, Md., in 1879, University of Pennsylvania Department of Medicine, Philadelphia 1905 during the following two years was an intern at University Hospital in 1907 joined the faculty of his alma mater as assistant instructor in surgery serving for nine years, and in 1916 was made an instructor, became a lieutenant colonel in the Medical Corps of the U S Army during World War I, was sent overseas and served as chief surgeon of Base Hospital 20 and as commanding officer of surgical team 61, in 1919, following his return to the faculty of his alma mater was made an associate in surgery and four years later was promoted to assistant professor became professor of clinical surgery in 1925 and later held the same post on the faculty of the graduate school of medicine in 1936 became the John Rhea Barton professor of surgery at University of Pennsylvania School of Medicine where at the time of his death he was emeritus professor of surgery member of the founders group of the American Board of Surgery fellow of the American College of Surgeons of which he had been vice president, and of the College of Physicians in Philadelphia, member of the American Surgical Association International College of Surgeons and the American Association for the Surgery of Trauma, served on the staffs of University Presbyterian and Philadelphia General hospitals, received the honorary degree of Doctor of Science from Washington College Chestertown, Md, in 1924, author of textbooks on surgical nursing and on first aid, died in the Presbyterian Hospital March 6, aged 70

Hugh Leslie Moore ⊕ Dallas Texas born in Tompkinsville, Ky, July 6 1874, Bellevue Hospital Medical College, New York, 1897, chairman and professor of the department of pediatrics of Baylor University College of Medicine from 1908 until its removal from Dallas, held a similar position with Southwestern Medical College until his death, specialist certified by the American Board of Pediatrics member of the House of Delegates of the American Medical Association in 1941 1942 and 1943, past president of the Southern Medical Association Grayson County and Dallas County medical societies and the Fourteenth District Medical Society charter member of the Dallas Pediatric Society and Texas Pediatric Society, and had served both organizations as president, member of the Dallas Southern Clinical Society fellow charter member and a former state regional director of the American Academy of Pediatrics and had served on its executive board fellow of the American College of Physicians, at one time vice president of the State Medical Association of Texas and the American Association of Teachers of Diseases of Children served as medical director of the Childrens Medical Center, chief of staff, Bradford Memorial Hospital for Babies and with the Texas Scottish Rite Hospital for Crippled Children Baylor University Hospital and Parkland Hospital local surgeon for the Houston and Central Texas Railroad, died January 20, aged 75, of cancer

Ray Hoskins Rulison ⊕ New York, born in Jonesville, N Y, Sept 30, 1882, Syracuse University College of Medicine, 1907, held teaching positions at New York Post Graduate Medical School and Cornell University Medical College specialist certified by the American Board of Dermatology and Syphilology, member of the American Academy of Dermatology and Syphilology and the New York Academy of Medicine, honorary member of the New York Dermatological Society, during World War I served with the American Red Cross in Roumania and France formerly attending dermatologist at Presbyterian Hospital, Bellevue Hospital, Cornell Clinic and New York Hospital, attending dermatologist at the New York Eye and Ear Infirmary and chief of dermatology at Lincoln Hospital consulting dermatologist at Tuxedo (N Y) Memorial Hospital, Horton Memorial Hospital in Middletown and St Lukes Hospital in Newburgh died at Claryville, N Y, February 12 aged 67, of coronary occlusion

James Heyward Blackwell Jr, Richmond Va, Howard University College of Medicine Washington D C, 1911, died February 2, aged 62

James Carlyle Borland, Falls Creek Pa, Jefferson Medical College of Philadelphia, 1905, member of the American Medical Association affiliated with the Dubois Hospital and the Maple Avenue Hospital in Dubois, died February 4, aged 71, of coronary occlusion

Benjamin Cosby Bradshaw, Marshall Mo, Barnes Medical College, St. Louis, 1895, served as county coroner for many years on the staff of the Missouri State School, died in the John Fitzgibbon Memorial Hospital January 29 aged 88, of injuries received in a fall

Joseph Wesley Brown, Hastings Neb State University of Iowa College of Medicine Iowa City 1905 city physician died in the Mary Lanning Hospital February 8 aged 72 of coronary occlusion.

Louis Raymond Brown, San Antonio Texas Tufts College Medical School Boston 1907 at one time professor of psychiatry at the University of Arkansas School of Medicine Little Rock, served as superintendent of the Galveston (Texas) State Psychopathic Hospital and the San Antonio State Hospital formerly affiliated with the Wichita Falls (Texas) State Hospital, died January 8 aged 71 of diabetes mellitus

William LeClaire Bywater, Iowa City Iowa State University of Iowa College of Homeopathic Medicine, Iowa City 1897, formerly on the faculty of his alma mater served on the city council and as chairman of the Airport Committee, past president of the chamber of commerce died in University Hospital February 5, aged 82, of left hypernephroma

George Dana Cameron, Chagrin Falls Ohio Cleveland University of Medicine and Surgery, 1895 died February 15 aged 80

Edward Perkins Carlton, De Forest Wis Northwestern University Medical School Chicago 1899 member of the American Medical Association died February 10 aged 78

Sophy Ellen Page Carlucci ⊕ Endicott N Y University of Buffalo School of Medicine 1902 served as secretary of the Womens Medical Society of the State of New York secretary of the medical staff of Ideal Hospital where she died February 24, aged 70 of cerebral thrombosis

Joseph Ovide Chenevert, Lawrence Mass School of Medicine and Surgery of Montreal Faculty of Medicine of the University of Laval at Montreal 1892 died recently, aged 80 of acute pulmonary edema

James S Chenoweth Louisville, Ky University of Louisville Medical Department 1889 member of the American Medical Association, died in St Anthonys Hospital January 10 aged 82, of myocarditis

Harley Ulysses Cramer ⊕ Lockport N Y University of Buffalo School of Medicine, 1906, member of the Radiological Society of North America, past president of the Niagara County Medical Society, died December 7, aged 69

Sara Davies, Toledo Ohio Cleveland Homeopathic Medical College, 1899, died in Riverside Hospital February 10, aged 74, of arteriosclerotic heart disease.

Reaves Warren De Crow, Wilmington, Ohio, Eclectic Medical Institute, Cincinnati, 1901 member of the American Medical Association secretary of the Clinton County Medical Society, past president of the Ohio Federation of Public Health Officials, health officer of Clinton County formerly health officer of Scioto County, served as medical inspector in the division of communicable diseases of the state department of health, died February 10, aged 70, of heart disease

John Lewis Duckett, Greenville S C Leonard Medical School Raleigh, N C., 1914, died recently, aged 64, of coronary occlusion

Albert Clark Freeman ⊕ Norwich, Conn University of Vermont College of Medicine Burlington 1913, served on the staff of the William W Backus Hospital died December 23 aged 66, of coronary occlusion

Joseph Samuel Fulton, Atoka Okla Kentucky School of Medicine Louisville 1890 member of the American Medical Association, councilor of the Tenth District of the Oklahoma State Medical Association, past president of the Oklahoma State Medical Association, died January 25, aged 84

Frank Ross Fursey ⊕ Spokane Wash Trinity Medical College Toronto Ont., Canada, 1903 an Associate Fellow of the American Medical Association died February 7 aged 71

William Skelton Garcelon, Sabattus Me McGill University Faculty of Medicine Montreal Canada 1907 served on the staff of St. Marys Hospital in Lewiston died January 30 aged 69 of cerebral hemorrhage.

Solomon Rufus Hickman, Albia Iowa Keokuk Medical College College of Physicians and Surgeons 1903 died January 26 aged 78 of cerebral hemorrhage.

George Butler Hill, Mount Washington Ky University of Louisville School of Medicine, 1924 died in Kentucky Baptist Hospital, Louisville January 12 aged 52 of injuries received in a fall

John C Hoshor, Savannah Mo University of Louisville (Ky) Medical Department 1898 died in Missouri Methodist Hospital St Joseph February 10, aged 78 of cerebral hemorrhage.

⊕ Indicates Fellow of the American Medical Association

Oscar Aden Jamison ⊕ Tuckerman, Ark , Barnes Medical College St Louis, 1901 , served during World War I , director of the First National Bank for many years alderman on the city council, died January 27, aged 73, of coronary occlusion

Samuel A Lively, Wakita Okla , Hospital College of Medicine, Louisville, 1887 , served as county health officer, died January 4, aged 85, of heart disease and arteriosclerosis

Frank Lyman Luce, Denver University of Wooster Medical Department Cleveland 1883 died January 26, aged 95

James Arren McAllister ⊕ Atlanta Ga , Atlanta Medical College 1914 , chief medical officer regional office of the Veterans Administration served during World War I, died February 16 aged 57 of coronary thrombosis

Robert Joseph McCarthy, Boston Tufts College Medical School Boston 1931 , served during World War II , died December 5 aged 42 of cirrhosis of the liver

James William McChesney ⊕ Baldwin N Y , Cornell University Medical College New York 1914 fellow of the American College of Surgeons affiliated with St Joseph's Hospital in Far Rockaway Nassau County Tuberculosis Hospital in Farmingdale Meadowbrook Hospital in Hempstead and Nassau Hospital in Mineola, where he died February 4, aged 61, of coronary occlusion

John Fredrick Macdonald, Portland Ore , Queen's University Faculty of Medicine *Kingston Ontario Canada, 1896*, fellow of the American College of Surgeons served during World War I formerly practiced in Hoquiam, Wash , where he was on the staff of the Hoquiam General Hospital , died February 12 aged 77

Fannie Maria McGee, Newton, Mass Tufts College Medical School Boston 1897 , died December 2, aged 75, of congestive heart failure

James Eugene McGovern, Remsen Iowa Rush Medical College Chicago 1902 , member of the board of education of Remsen affiliated with the Sacred Heart Hospital in Le Mars, where he died February 2, aged 80 of carcinoma of the stomach

Robert Marion Markham, Pittsburg Kan University Medical College of Kansas City Mo 1892 member of the American Medical Association formerly mayor of Scammon , died January 31 aged 87, of cerebral hemorrhage and arteriosclerosis

Robert Ernest Martin, Smith Mo , Barnes Medical College St Louis 1911 member of the American Medical Association died in February, aged 71

Frank Howard May, Birmingham Ala , University of the South Medical Department *Sewanee Tenn 1898*, died February 16, aged 72 of pneumonia, hypertension and arteriosclerosis

Peter Frederick Metz, Polson Mont , University of the City of New York Medical Department, New York, 1893 , died *in January, aged 83*

Morton Morgenstern ⊕ Cleveland , University of Louisville School of Medicine, 1928 , affiliated with the Polyclinic Hospital , died February 19, aged 46 of coronary thrombosis

William D Moser, Burlington N C , University of North Carolina School of Medicine, 1910 , died in Columbia February 10, aged 69

Frederick Allen Muschlitz ⊕ Wilkes-Barre Pa , Jefferson Medical College of Philadelphia, 1911 , for many years on teh staff of the Pittston (Pa) Hospital , died January 25, aged 62, of coronary occlusion

John Holyoke Nichols, Danvers, Mass , Harvard Medical School, Boston, 1892 , member of the American Medical Association and the American Psychiatric Association at one time superintendent of the state infirmary at Tewksbury , died in Belmont recently, aged 83, of cerebral thrombosis

Daniel I O'Leary Jr , Newburgh, N Y , Fordham University School of Medicine, New York 1912 , member of the American Medical Association , affiliated with St Luke's Hospital, where he died January 6, aged 64, following a fractured right femur

Charles Clarence Parriott, Clarinda, Iowa, Drake University Medical Department, Des Moines, *1889*, died February 14, aged 87, of pneumonia

Louis Smith Parsons ⊕ Ocean City, Md , University of Pennsylvania School of Medicine, *Philadelphia*, 1919 , member of the Medical Society of Delaware , fellow of the American College of Surgeons , practiced in Wilmington, Del , where he was on the staff of Delaware Hospital, where he died February 15, aged 53

Brack Coleman Payne, Winter Park, Fla , University of Alabama School of Medicine, 1916 , member of the American Medical Association and the Medical *Association of the State* of Alabama , died January 28, aged 64, of cardiovascular renal disease

Lucian Palmer Richardson, Kansas City, Mo , Meharry *Medical College, Nashville, Tenn* , 1910 , served two terms as a *Jackson County* deputy coroner , died January 23, aged 68, *of coronary thrombosis* and hypertension

Elmer Ellsworth Robbins Jr , New Bedford, Mass , University of *Pennsylvania School* of Medicine, Philadelphia, 1915 , died recently, aged 61, of *myocardial* insufficiency

Henry Francis Rohs ⊕ Cincinnati , Creighton University School of Medicine, Omaha, 1929 , affiliated with the Good Samaritan Hospital , *chief of staff* at Our Lady of Mercy Hospital where he died February 14, aged 47, of hypertension and diabetes mellitus

Albert Roy Sargeant, Portland, Ore , University of Oregon Medical School, Portland, 1908 , died January 26, aged [illegible]

Jesse Arthur Sherrod, New Orleans , Meharry Medical College, Nashville Tenn , *1921* , died February 11, aged 53, of coronary occlusion

Joseph Thornton Stewart, Summerfield, N C. (licensed in North Carolina in 1898) , died January 23, aged 80

James Henry Strong, Boston , Harvard Medical School, Boston, 1892 , died recently , of chronic myocarditis

Robert Porch Sturr ⊕ Haddon Heights, N J , Jefferson Medical College of Philadelphia, 1916 , specialist certified by the American Board of Radiology , member of the American College of Radiology , served *during* World Wars I and II , chief radiologist at Camden County General Hospital, Grenloch, N J , affiliated with Jefferson and Graduate hospitals in Philadelphia , died in Oceanside, Calif , February 11, aged 56, of chronic myocarditis

Francis Michael Sullivan, Pompano Beach, Fla , Emory University School of Medicine, Atlanta, 1937 , served during World War II , died January 11, aged 39

John Maurice Thompson, West Plains, Mo , Homeopathic Medical *College of Missouri, St Louis, 1907* , died *January 29*, aged 66 of coronary disease

Russell Todd Uhls ⊕ Long Beach, Calif , University Medical College of Kansas City, 1911 , member of the health board of Long Beach , on the *staffs of the Community*, St Mary's and Seaside hospitals , served during World War I, died January 31 aged 61, of pulmonary embolism following a gastrectomy

William Samuel Walkley, Chelsea, Mass , Boston University Medical School, 1895 , on the staff of the Chelsea Memorial Hospital , city bacteriologist , died December 7, aged 78, of coronary thrombosis

Lawrence M Warden, *Denver*, Kansas City (Mo) College of Medicine and Surgery, 1920 , St. Louis College of Physicians and Surgeons, *1922*, died January 26, aged 66, of pulmonary embolism, fractured right hip and paralysis agitans

John Douglas Watson, Minneapolis , Western University Faculty of Medicine, London, Ont , Canada, 1907 , member of the American Medical Association , served during World War I , died in St Paul February 13, aged 64

Mac Williams Webb, Wagener, S C , Medical College of the State of South Carolina, Charleston, 1911 , member of the American Medical Association , died February 20, aged 63, of carcinoma of the liver

Dwight Addison Weir ⊕ Mansfield, Ohio , University of Rochester (N Y) School of Medicine and Dentistry, 1930 , specialist certified by the American Board of Pediatrics , member of the American Academy of Pediatrics , affiliated *with* Mansfield General Hospital , died in Strong Memorial Hospital, Rochester, N Y , February 15, aged 46, of cancer of the sigmoid

Hamlin B Whiteside, Ohatchee, Ala , University of Alabama School of Medicine, 1910 , member of the American Medical Association , died January 28, aged 67

Fairfax George Wright ⊕ Chambersburg, Pa , University of Maryland School of Medicine, Baltimore, 1903 , fellow of the American College of Surgeons , served during World War I , for many years surgeon in chief of Chambersburg Hospital , died February 13, aged 70, of duodenal ulcer

John Leonard Wright, Trimble, Tenn , Vanderbilt University School of Medicine, Nashville, 1904 , member of the school board , director of the *Farmers Bank* , died January 19, aged 80

Lebrecht W Zochert ⊕ La Mesa, Calif , Milwaukee Medical College, 1897 , died in Mercy Hospital, San Diego, February 12, aged 74, of acute coronary occlusion

Foreign Letters

LONDON

(From a Regular Correspondent)

Feb 15 1950

Original Health Service Estimates

(For comparison of 1948 and present figures it is thought best to assume an unaltered rate of exchange of £1 = $4)

The London *Times* points out that ' In 1948 1949 it was originally expected that the taxpayer s share of the cost of this service would for nine months, come to $600 million Supplementary estimates subsequently raised this figure to $832 million For the full current year the taxpayer s share (including a small earlier addition) was to have been $1,044 million, which would have been in line with the actual outlay of 1948-1949 The new supplementary estimates now raise the total to be paid out of taxes in 1949-1950 to $1 436 million Nor is this all The summary of civil estimates for the coming year 1950 1951, published in the new vote on account, provides for a total civil outlay (excluding the expenditure of revenue departments) of $8,668 million compared with $8 832 million, the main cuts falling on various services surviving from the war and on the Ministries of Food and Agriculture '

Rise in Health Service Expenditure

The Health Service expenditure is to rise from $1 436 million this year to $1,572 million in 1950 1951 This still higher total may be intended to insure the Government against again having to present a vast supplementary account for the health service There is no other evident reason for forecasting an increase of $256 million on this year s swollen total Even these figures do not tell the whole story, for in the current year the Health Service has also drawn $164 million from the national insurance fund and about $64 million from rate-payers All told the total net cost of the service this year can hardly have been less than $1,664 million while next year the Government appears to believe or to fear, that it will go up to at least $1,800 million

Where the Increases Lie

The final bill for hospitals medical supplies artificial limbs, hearing aids and other services associated with the hospitals is about $200 million more than was bargained for The bill for dentistry, originally put at $123 6 million turns out to be $194 4 million Sight testing and spectacles have cost $100 4 million instead of $58 8 million The chemists have drawn $141 2 million instead of $83.2 million

Additional Civil Estimates

The Government, of which Sir Stafford Cripps is still the chancellor of the exchequer, has requested Parliament to vote additional civil estimates of £148 million (approximately $440 million) for the current year, of which no less than £99 million (approximately $295 million) is needed for the Health Service

Pay of Regional Psychiatrists

Regional psychiatrists are responsible for advising the regional boards in the planning and coordination of the mental health services in the various regions When the organization of hospital and specialist services was under consideration in 1947, the Ministry proposed that the salaries of regional psychiatrists should be £1,600 to £1 750 After representations that these salaries would not attract practitioners of the necessary experience and ability, it was agreed that their salaries should be related to the salaries of the senior administrative officers and range from £1,800 to £2 000 At the same time it was agreed that these salaries and those of the senior administrative officers should be reviewed in the light of the report of the Spens Committee Up to the present no review has taken place although the salaries of clinical consultants were determined some months ago

Postoperative Upper Arm Paralysis

Ewing reports a series of 5 cases of upper arm paralysis following abdominal operations Reviewing the literature on the subject he says that the commonly held opinion is that these injuries are due to pressure on the supraclavicular portion of the brachial plexus—usually blamed on badly padded or badly placed shoulder rests This view has been supported by the fact that almost all these injuries follow long operations in which a Trendelenberg tilt is used

Ewing puts forward the opinion that the important factor is abduction and lateral rotation of the shoulder combined with extension of the wrist and elbow This is the position seen when the upper limb is fixed to an arm board for purposes of intravenous infusion or anesthesia. In this position the brachial plexus is stretched round the prominent head of the humerus The stretching is greatest when the scapula is fixed by pressure of a shoulder rest against the acromion This stretching has been demonstrated on cadavers Ewing suggests that prevention of these injuries is best secured by avoiding abduction of the arm during operation particularly when a Trendelenberg tilt is used. As far as possible the trunk should be maintained in position on the table by supports pressing on the iliac crests and not the shoulders

L G Kiloh also reports 4 cases of brachial plexus lesions following cholecystectomy In none of these was a Trendelenberg tilt used but in all the arms were abducted in some associated with lateral rotation These cases further support the opinion that the important factor is stretching produced by the abduction

Birth Control

The Stationery Office has now published the Report of the Royal Commission of Population on the use of Birth Control This investigation was made with the help of the Royal College of Obstetricians and Gynecologists Histories were mainly obtained from women patients in the general wards of hospitals excluding those whose admission was due to maternity A certain number were obtained by other means—100 from the Peckham Health Centre In all 3,281 useful histories were obtained The report stresses that this series may be regarded as biased in two ways First 64 per cent of the histories came from the urbanized areas of London and Glasgow which contain only 20 per cent of the married women in the country Second the group consists largely of the less well to do and had higher than average fertility A further difficulty arises from the fact that the questions must be answered from memory and the period which has elapsed may be considerable

In the whole group 56 per cent admitted the use of birth control at some period (including coitus interruptus abstinence for more than six months and the use of the safe period) Dividing the group according to the date of marriage and according to the period at which birth control was used produces the following percentages

Date of Marriage	Birth Control at Marriage	Birth Control within 5 Years	Birth Control Later	Total
Before 1910				15
1910 1919	8	22	11	41
1935 1939	28	32	7	67

In 1910 1919 9 per cent used appliances and 31 per cent coitus interruptus In 1935 1939 37 per cent used appliances and 29 per cent coitus interruptus Division into social classes according to the husband s occupation shows a decrease in the use of appliances and an increase of coitus interruptus in the lower social classes

It is apparent that the present fall in the size of the family is due to voluntary limitations but it is interesting to speculate why the birth rate started its dramatic decline in the 1870s although in the small sample of women married before 1910 only 15 per cent admitted the use of birth control

ITALY

(From a Regular Correspondent)

FLORENCE, Jan 15, 1950

Congress of Industrial Medicine

The fifteenth International Congress of Industrial Medicine was held in Genoa under the chairmanship of Professor Molfino The first report was on sexual physiopathology and the part played by maternity in relation to work done by women Professor Malcovati of Milan said that in the past special attention was given to the effects of occupational intoxication on the pregnant woman, today emphasis is placed on the effects of work on the status of women, on the functioning of the sexual organs outside of the pregnancy cycle and on the possibility of the occurrence of a specific gynecologic disease Another important aspect of the problem is the effect of the sexual cycle and pregnancy on the working capacity of the female worker He reviewed the psychosomatic differences between the sexes and the biologic individuality of the woman, then discussed the influence that dysmenorrhea, headache, general discomfort and asthenia associated with the menses and pregnancy may have on absenteeism

Many classic concepts should be revised in view of present legislation protecting maternity the improved hygienic conditions in industry and the higher cultural level of the population There remain many problems, such as abortion, intoxication of pregnant women and weight of the fetus in connection with type of work, all requiring the greatest attention of the industrial physician and of the obstetrician, who should always consult with one another Italian legislation concerning the protection of women workers and working mothers is now on its way to being modernized The speaker called attention to some postulates resulting from the recent investigation by the Interparliamentary Committee of Stockholm and insisted on heir study for the reform of social welfare and labor legislation

The second subject was "The Present State of Silicosis in Italy" Professor Vigliani of Milan reported on the results of a wide statistical study on the distribution, frequency and seriousness of silicosis, other types of pneumoconiosis and tuberculosis among Italian industrial workers exposed to dust, during the period 1940-1949

The statistics comprised 134,095 workers, 123,540 of whom were employed in 1,140 industrial plants, where they were exposed to the inhalation of dust About 210,000 miniature chest roentgenograms and more than 15,000 roentgenograms of normal size have been made The speaker reviewed recent research on silicosis, he discussed the new etiopathologic theory of Policard and Velicogna and reported on the new points of view in the field of histology concerning the silicotic nodule and the involvement of the histiocytic system The radiologic studies have brought to light a particular type of reticulation with small rings and dots of pin size, observed especially in silicosis caused by mixed dust (in which substances that inhibit quartz activity are predominant) and in siderosis The prognosis in silicosis should be based on the composition and concentration of the inhaled dust, the duration of the inhalation, the radiologic aspect and the evaluation of clinical and functional data Silicosis causes serious invalidism but has an unfavorable prognosis only in those instances in which it is complicated with tuberculosis, even if the latter may not be manifest The speaker reviewed recent methods of therapy, among them inhalation of aluminum dust, aerosol therapy using bronchodilator products, streptomycin and para-aminosalicylic acid

Professor Mauro of Milan reported the results obtained during a five year period of application of the compulsory insurance law to silicosis in Italy From July 1, 1943 to June 30, 1948 compensation was granted to 2,033 patients with silicosis, 1,475 of whom are still alive, in 558 instances compensation was granted to relatives of workers who died Thirty-three per cent of the compensation cases belonged to the province of Lombardy With respect to the type of work which produced silicosis, 37 6 per cent of workers belonged to the extractive industry and 35 5 per cent to the metallomechanic industries Seventy-nine per cent of the workers in the extractive industry were miners

Silicotuberculosis was observed in 24 4 per cent of all cases in which compensation was granted To eliminate some loopholes in the compulsory insurance law with respect to silicosis, the speaker advocates periodic examination for five to ten years of the workers who have withdrawn from the industrial work associated with dust, even of those in apparently good health, but who may have an incipient silicosis or asbestosis The National Institute of Insurance against occupational accidents recently established a hospital for convalescents and an outpatient service for silicotic persons

Professor Pancheri of Milan dealt also with prevention of silicosis in Italy He discussed three of its aspects the legislative, the biologic and the technical He insisted on the need to provide a periodic medical examination of workers employed in dusty trades The periodic examination should be frequent, and it would be convenient to introduce fluoroscopy in addition to teleradiography as an aid in clarifying the diagnosis

DENMARK

(From a Regular Correspondent)

COPENHAGEN, Jan 25, 1950

Treatment of Pneumonia in Childhood

A lead article in a recent number of the *Journal of the Danish Medical Association* comments on the failure to reduce the mortality from pneumonia in childhood. The gross mortality from this cause among children less than 12 months of age in children's hospitals continues to be between 10 and 20 per cent, and, what is perhaps still worse, about 63 per cent of all patients with infections of the lungs admitted to the hospital have been found not to have received treatment at home, although doctors had been in attendance on many of them for several days before they were sent to the hospital About two thirds of these patients had received inadequate treatment at home

There seems to be more complacency in the hospital treatment of pneumonia in childhood, although in speaking of the treatment of this disease with sulfathiazole we are well aware of the disfavor into which it has fallen in the United States and even in neighboring Norway, where the health authorities have advised that when the drug is prescribed it should always be given with an alkali such as sodium bicarbonate Our loyalty to sulfathiazole is largely based on the remarkable experiences of the Children's Department of the Sundby Hospital, which is in charge of Dr C Friderichsen His first publication on the subject appeared in 1941, when he gave an account of the administration of a single massive dose of sulfathiazole in 70 cases of pneumonia in children The results were so encouraging that this treatment has been continued ever since at this hospital, with only this modification the massive doses were repeated once or oftener in serious cases with an interval of twenty-four to forty-eight hours between each dose During the eight year period Feb 1, 1941 to Feb 1, 1949 some 1,500 children have been given this treatment, among them 875 with pneumonia

Whatever the dangers of sulfathiazole when given continuously, single massive doses were never found to damage the blood or kidneys After the exclusion of patients moribund on admission and those with congenital defects, the mortality among these 875 cases was only 0 46 per cent The dosage was 0 30 Gm per kilogram of body weight, and when the patient weighed over 13 Kg the dose did not exceed 4 Gm save in exceptional cases The usual single dose for children over the age of 2 years was 4 Gm (eight tablets) ground into powder mixed with saccharine or sugar and suspended in a little milk or water

Examination for Driver's License

Early in 1949 a doctor who specialized in examining applicants for driving licenses and who charged only 6 kroner for each examination instead of the standard fee of 10 kroner got into trouble A man whom he had passed as physically and mentally fit to drive a car proved to be mentally defective (I Q of 75) and to suffer from spastic hemiparesis of the right leg from birth Pending an action by the authorities against him for negligence in testifying to the fitness of the man to drive a car the doctor inserted an anonymous advertisement in the daily press with this wording "Man with a glass eye wanted for special work as soon as possible' This advertisement led to an interview between such a man and the doctor, who offered him 25 kroner for every medical certificate for a driving license obtained from doctors who overlooked the glass eye. History does not relate whether he acted on this offer or not but it was evidently inspired by a desire to demonstrate how difficult it is to test applicants for driving licenses however conscientious the doctor

The action brought by the authorities against the doctor in question ended on Sept. 19, 1949 with a fine of 250 kroner It transpired that he had ceased to be a member of the Danish Medical Association and that he was accordingly disqualified from sickness insurance practice But he had a small private practice and he issued some 6,000 to 7 000 medical certificates every year to applicants for driving licenses It was argued that his popularity as a medical examiner reflected the modesty of his fee and not any reputation for laxity as an examiner The court found it a mitigating circumstance that the doctor s sins were those of omission rather than those of commission the man having deliberately hoodwinked him as to his disabilities The court also held that a doctor can hardly be expected to subject the examinee to searching intelligence tests when he does not present obvious signs of defective intelligence But what was fatal to the doctor's case was the fact that he had noticed the man limping as he left the office after securing the medical certificate and had called the man back but had decided that the applicant's limbs were normal

THE NETHERLANDS

(From a Regular Correspondent)

Jan 22, 1950

Plague in Java

The figures regularly published by the World Health Organization in its *Epidemiological and Vital Statistics Reports* show that there is considerable plague infection still present in Java Plague was probably imported into Java for the first time in November 1910, being introduced through rice in the port of Surabaya The disease made its way into the hinterland (Malang, Kediri, Madyun) by dead rats and infected fleas being transported by rail and with carloads of rice and spread among the house rats in eastern Java. In following years the disease disappeared from eastern Java, as houses were ratproofed but moved westward. In 1914, 1,600 cases were reported. After a short period during which the infection remained at a low level, the malady attacked several provinces of middle and western Java. During the years 1920 to 1927 the annual number of victims fluctuated between 8,000 and 14 000 from 1928 to 1931 it fell to 4 000 After a top in 1934 (23 000) there followed a gradual decrease, in 1940 and 1941 (prewar years) only 312 and 550 cases were reported. During the war and during the first years after the war only incomplete figures have been available. In the first forty-two weeks of 1948, 3 422 cases and 3 365 deaths were reported Plague still represents an important problem in Java

The principle of the antiplague campaign in Java realized by the Dutch government before the war was extremely simple. The discovery of how rats nest in Javanese dwellings pointed the way The obvious remedy is to construct houses in such a manner that house rats cannot find a safe place to build a nest indoors Bamboo was replaced by wood and atap thatching by tiles, simple devices were made to eliminate waste spaces House inspection was part of the system To provide the people with the necessary material for rebuilding their houses large scale cultivation of a quick-growing tree was introduced Since 1914 roughly 1 500 000 houses in Java have been remodeled Before the war vaccination was also applied on a large scale but not as a preventive measure in the true sense of the term. It increases resistance to the disease but it does not eliminate danger of infection The service regarded it merely a means of gaining time and tiding the population over the house-remodeling period. The only truly effective preventive in the real sense of the word is improved housing

Sickle Cell Disease

In *Documenta Neerlandica et Indonesica* (1 270 1949) A. der Sar reports the occurrence of sickle cell disease among the negroid population of Curaçao In 2 499 persons the average percentage was 11 7 the percentages for males and females being 9 4 and 12.3 respectively The author describes a family of negroid type both parents had a positive congenital sickle cell trait. Of 10 children only the 5 girls showed signs of the disease, 3 of the girls (aged 12 8 and 2½ years) showed latent sickle anemia with frequent exacerbations The prognosis depends on the group to which the patient belongs There is a wide difference between the sickle cells which are the only constitutional abnormality in healthy persons and which are observed in those in whom hereditary sickle cell trait is coupled with anemia and whose histories include periods of serious illness As far as age is concerned mortality among young children is high one of the reasons why active sickle cell anemia is rare in older groups Pregnancy seriously endangers life because of severe sickle cell crises high temperature and albuminuria. Early blood transfusion and liver therapy may lead to a successful outcome of pregnancy Administration of oxygen was found to be beneficial as oxygen tension influences the formation of the sickle cells

Congress for the History of Medicine at Amsterdam

The sixth International Congress for the History of Science will be held at Amsterdam Aug 14 to 20 1950 under the auspices of the Academy and the International Union for the History of Science. Apart from general and committee meetings the congress members will meet in four sections (1) mathematics physics and astronomy (2) chemistry pharmacy and biology (3) applied science and technology and (4) medicine. The meeting of the last section will also form the sixteenth congress of the International Union for the History of Medicine. Prof R J Forbes Haringvlietstraat, Amsterdam is the general secretary of the congress

Experimental Heart Surgery

The artificial lung heart apparatus of Professor Jongbloed (Department of Physiology of the University of Utrecht) enabled the author to undertake a series of experiments in dogs especially to study the difficulties encountered in making the heart accessible to intracardial operations (*Nederl Tijdschr v Geneesk* 94 161 [Jan. 21] 1950) The animals withstand the artificial circulation but problems arise from the secondary hemorrhage of the thorax and heart wounds in these heparinized animals Jongbloed progressed so far that an animal in which the left atrium was widely opened so that the mitral valves were visible and accessible survived in good condition.

Chloramphenicol in Typhoid

In the Wilhelmina Hospital at Amsterdam, Minkenhof (*Nederl tijdschr v geneesk* 93 4366 [Dec 31] 1949) tried chloramphenicol, 3 Gm daily for a week, in a series of 15 patients with typhoid or paratyphoid B The results were good, all the manifestations of disease disappearing within a few days (maximum six days) The same treatment failed to effect 'sterilization' of 4 chronic typhoid carriers The author used Shigella sonnei for testing the chloramphenicol content of the serum

OSLO

(From a Regular Correspondent)

March 20, 1950

Johan Scharffenberg's Birthday

Last year the rector of the University of Oslo, Prof Otto L Mohr spoke in honor of the eightieth birthday of Dr Johan Scharffenberg He told how, as a callow medical student, he first heard Dr Scharffenberg speak in public and how he was gripped by the man's gift for combining forcefulness of personality with honesty and lucidity of thought

Dr Scharffenberg has made countless contributions to a wide variety of subjects, the historical aspect of medicine, psychiatry, heredity, medicolegal problems, alcoholism and, in a more general sense, the liberty of the individual and his emancipation from dictatorship and other forms of tyranny From 1933 onward he delighted in exposing hitlerian heresies, so it is easy to understand why he failed to become a *persona grata* with Quisling and his cohorts during the German occupation of Norway About 1905 when Norway broke loose from Sweden and was hovering between choice of becoming a republic or a monarchy, Dr Scharffenberg was a vehement republican Yet in 1945 it was he who was chosen to address in public Norway's King on his return from exile

Dr Scharffenberg has often been called a fanatic by his opponents on the subject of alcohol and its abuse He has certainly been opposed to the consumption of alcohol But he has brought to his advocacy of total prohibition a disarming intellectual honesty and a profound contempt for specious and emotional arguments not founded on facts He refused for a long time to speak on the radio because he objected in principle to censorship before he spoke When this obstacle was removed and he began in 1937 to speak on the air, he became very popular because he does not indulge in oratorical embroidery and because of his personality

In Praise of the Pirquet Test

Dr J Heimbeck, whose work on tuberculosis and BCG vaccination for nurses at the Ullevaal Hospital from 1926 onward made him a pioneer in this field, has much good to say of the Pirquet test and nothing good whatever to say of the Mantoux test as a guide to BCG vaccination His article on this subject in the first number of the *Journal of the Norwegian Medical Association* for 1950 is a challenge The International Tuberculosis Campaign, which is responsible for the health of millions, has recently published a guide to tuberculin testing and BCG vaccination in which the Mantoux and Moro tests with tuberculin as preliminaries to BCG vaccination are recommended and the Pirquet test is ignored

The great virtue of the Pirquet test, in Heimbeck's opinion, is its stability Once one is Pirquet positive, he remains so with a few exceptions observed in old age and severe disease Heimbeck refers to 1,247 Pirquet-positive persons in Oslo who were tested a second time or oftener with the Pirquet test and who were invariably *Pirquet-positive*, whatever the interval between the first and subsequent tests Can any such virtue be claimed for the Mantoux test? The great fault of the Mantoux test, in Heimbeck's opinion, is its instability He quotes in this connection the M D thesis of the Dane, Sigrid Holm, published in 1947 She obtained a positive Mantoux reaction in 1,243 persons after they had undergone a primary infection, but when she repeated the test in 219 of them in the course of the first year after this test she found that 91 (41 per cent) had become Mantoux-negative In the course of the second year, 159 of 477 positive reactors had become Mantoux-negative. Within the first seven years 372 of the 1,243 persons originally Mantoux positive had become Mantoux negative (30 per cent) Heimbeck states "Either the Mantoux test gives a false, nonspecific reaction very often or the tuberculosis immunity factor which manifests itself in the tuberculin reaction is a very unstable factor which comes and goes from year to year and thus provides no foundation for vaccination" He concludes that "the Pirquet reaction is certainly not ideal, but hitherto no one has given himself time to show by systematic investigations and observations that another test is better as a foundation for BCG vaccination" Heimbeck uses old tuberculin without epinephrine for the Pirquet test

Surgical Treatment of Pulmonary Tuberculosis

For many years Dr Einar Murstad, the surgeon in charge of a municipal hospital in the town of Lillehammer, has devoted much of his time to the operative treatment of pulmonary tuberculosis One of his assistants, Dr Martin Seip, has recently published a one hundred and thirty-one page study in which he deals with about 1,000 cases of pulmonary tuberculosis treated at this hospital in the period 1937 to 1947 As this study is published in English, it should be a useful guide to many outside the Scandinavian countries It is largely devoted to a comparison of the merits of thoracoplasty and extrapleural pneumothorax It is also an honest and explicit recantation, a stimulating departure from orthodoxy Dr Seip writes "We were for a long while of the opinion that thoracoplasty was a safer and better method than extrapleural pneumothorax and reserved the extrapleural pneumothorax to cases in which thoracoplasty was contraindicated for some reason or other Most surgeons seem to have a similar opinion today But little by little we have changed our mind and begun to perform extrapleural pneumothorax to a larger extent in cases in which in earlier years we would have performed thoracoplasty And in the last years, since 1945, we have performed many more extrapleural pneumonolyses than thoracoplasties" This is a challenge indeed But before other thoracic surgeons join issue with Drs Murstad and Seip, they would do well to peruse this factual presentation of the case for revising opinions on the verge of becoming a little too standardized This study is published as Supplement No 19 to *Acta tuberculosea Scandinavica*

BCG Vaccination

Critics of BCG vaccination are inclined to argue that it will require much time and skilled personnel to be effective However, soon after World War II Dr J Myren was appointed temporarily as the state's Medical Officer of Health, with right to private practice, in a thinly populated district on the West Coast of Norway He was also responsible for a neighboring administrative district with a population of about 1,500 By the end of 1949, when his appointment ended, he had examined (tuberculin-tested) 2,468 of the 3,000 inhabitants in the first district and had personally given intracutaneous injections of BCG to 1,091 tuberculin-negative persons As many as 883 of these persons have subsequently been kept under control with tuberculin testing Dr Myren has also found time to discover and keep under close supervision the persons with pulmonary tuberculosis who were likely to be infectious in his district A detailed report of his really impressive achievement soon will be published in the medical press

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners *Part II* Various medical schools April 24 25 *Parts I and II* Various locations, June 19 21 Final date for accepting applications is May 19 Exec. Sec Mr E. S Elwood 225 S 15th Street Philadelphia

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology *Written* Various locations. July 21 *Oral* Philadelphia April 23 27 Chicago, Oct. 8-11 Sec., Dr Curtiss B Hickcox 745 Fifth Ave., New York 22.

American Board of Dermatology and Syphilology *Oral* Washington April 14-16 Sec Dr George M Lewis 66 E 66th Street New York 21

American Board of Internal Medicine *Oral* Boston April 13 15 San Francisco June 21 23 The oral examinations in the sub specialties will be held at the same time and places *Written* Oct 16 Final date for acceptance of applications is May 1 Asst Sec., Dr William A Werrell 1 West Main Street, Madison 3 Wis

American Board of Neurological Surgery *Oral* Chicago June 3 Applications no longer accepted Chicago Oct 1950 Final date for filing applications is April 30 Sec Dr W J German 789 Howard Ave. New Haven Conn

American Board of Obstetrics and Gynecology Inc *Oral Part II* Atlantic City May 21 27 Sec. Dr Paul Titus 1015 Highland Bldg Pittsburgh

American Board of Orthopaedic Surgery *Part I* New York April 21 22 Atlanta April 28 29 Indianapolis April 28 29 Denver May 5-6 Sec Dr Harold A Sofield 122 S Michigan Ave Chicago

American Board of Ophthalmology *Written* Various Centers January 1951 Final date for filing applications is July 1 1950 *Practical.* Boston May 22 26 Chicago Oct. 2 6 West Coast, Jan 1951 Sec. Dr Edwin B Dunphy 56 Ivie Road. Cape Cottage Maine

American Board of Otolaryngology *Oral* San Francisco May Chicago October Sec. Dr Dean M Lierle, University Hospital Iowa City

American Board of Pathology Madison Wis, April 11 12 St. Louis Nov 10 11 Sec Dr Robert A Moore 507 Euclid Ave. St. Louis.

American Board of Pediatrics Cincinnati May 5 7 San Francisco June 30-July 2 Exec Sec. Dr John McK Mitchell 6 Cushman Road Rosemont Pa.

American Board of Physical Medicine and Rehabilitation *Oral and Written* Boston Aug 26-27 Final date for filing applications is April 1 Sec. Dr Robert L Bennett, 30 N Michigan Ave Chicago

American Board of Plastic Surgery *Oral* May June Sec Dr Louis T Byars 4647 Pershing Avenue St. Louis, Mo

American Board of Preventive Medicine and Public Health *Written* Portland Ore. May 28 *Oral* Portland Ore May 29 Sec. Dr E L Stebbins 615 N Wolfe St. Baltimore 5 Md.

American Board of Proctology *Part I* San Francisco, Dallas Minneapolis and Philadelphia May 13 Sec. Gen Dr Louis A. Buie 102 110 Second Ave S W Rochester Minn

American Board of Psychiatry and Neurology San Francisco June 23 24 Applications no longer accepted Next examination December 1950 Final date for filing applications is Sept 1

American Board of Radiology *Oral* Chicago week of June 18. Sec. Dr B R Kirklin, 102 10 Second Ave S W Rochester Minn

American Board of Surgery *Written* Various centers Oct 25 Final date for filing applications is July 1 Sec. Dr J Stewart Rodman 225 South 15th Street Philadelphia

American Board of Urology Chicago, Feb 10-14, 1951 Final date for filing applications is Sept 1 1950 Sec. Dr Harry Culver 7935 Sunnyside Road Minneapolis 21

BOARDS OF MEDICAL EXAMINERS

Alabama *Examination* Montgomery June 27 29 Sec., Dr D G Gill, 519 Dexter Avenue, Montgomery

Arizona * *Examination and Reciprocity* Phoenix April 18 19 and April 22 Sec. Dr J H Patterson 316 West McDowell Road Phoenix.

Arkansas * *Examination* Little Rock June 8 9 Sec Dr Joe Verser Harrisburg *Eclectic* Little Rock June 8-9 Sec., Dr Clarence H Young 1415 Main Street, Little Rock.

California *Examination Written* San Francisco June 19 22 Los Angeles Aug 21 24 Sacramento Oct. 16-19 *Examination Oral and Clinical for Foreign Medical School Graduates* San Francisco, June 18 Los Angeles Aug 20 San Francisco Nov 12 *Reciprocity Oral Examination* San Francisco June 17 Los Angeles Aug 19 San Francisco Nov 11 Sec. Dr Frederick N Scatena, 1020 N Street, Sacramento 14

Connecticut * *Examination* Hartford, July 11 12 Sec. to the Board Dr Creighton Barker 160 St. Ronan St. New Haven. *Homeopathic* Derby July 11 12 Sec Dr Donald A Davis 58 Elizabeth St. Derby

Delaware *Examination* Dover July 11 13 *Reciprocity* Dover July 20 Sec Dr J S McDaniel 229 S State St. Dover

District of Columbia *Examination* Washington May 8 9 Sec Dr Daniel L. Seckinger 4130 E. Municipal Bldg Washington 1

Florida * Jacksonville June 25 27 Sec. Dr Frank D Gray 12 N Rosalind Avenue, Orlando.

Georgia *Examination* Atlanta and Augusta June. *Endorsement* Atlanta June. Sec., Mr R. C. Coleman 111 State Capitol, Atlanta 3

Hawaii *Examination* Honolulu, July 10-13 Sec. Dr L. L. Tilden, 1020 Kapiolani St Honolulu

Idaho Boise, July 10 Sec., Mr Armand L. Bird [illegible]05 Sun Bldg., Boise

Indiana *Examination* Indianapolis, June. Sec., Dr Paul R. Tindall 1138 K. of P. Bldg Indianapolis

Iowa * *Examination* Iowa City June 12 14 Sec., Dr M A Royal 06 Fleming Building Des Moines 19

Kansas Kansas City June 7-8. Sec., Dr J F Hassig 905 N 7th Street, Kansas City

Kentucky *Examination.* Louisville, June 14-16. Sec., Dr Bruce Underwood 620 S 3rd Street, Louisville 2.

Maine *Examination and Reciprocity* Augusta July 11 12 Sec. Dr Adam P Leighton 192 State St Portland.

Maryland *Examination* Baltimore June 20-23 Sec Dr Lewis P Gundry 1215 Cathedral Street Baltimore 1 *Homeopathic* Baltimore June 20-21 Sec., Dr John A. Evans 612 W 40th St. Baltimore.

Massachusetts *Examination* Boston, July 11 14 Sec. Dr George L Schadt, Room 37 State House, Boston 33

Minnesota * Minneapolis April 18 20 Sec., Dr Julian F Dubois 230 Lowry Medical Arts Bldg St Paul 5

Missouri Examination St. Louis May 31 June 2 and June 7 9 Exec. Sec. Mr John A. Hailey Box 4 State Capitol Building St. Louis.

Nebraska * *Examination* Omaha June 5 7 Director Bureau of Examining Boards Mr Oscar F Humble, 1009 State Capitol Building Lincoln 9

Nevada Carson City May 1 Sec. Dr George H Ross, 112 Curry Street, Carson City

New Hampshire Concord Sept. 13 Sec., Dr John Samuel Wheeler 107 State House, Concord.

New Jersey *Examination* Trenton June 20 23 Sec. Dr E. S Hallinger 28 West State Street Trenton

New Mexico * Santa Fe April 10-11 Sec., Dr Charles J McCoey Coronado Building Santa Fe

New York *Examination* Albany Buffalo New York and Syracuse June 27 30 Sec. Dr Jacob L. Lochner Jr 23 S Pearl St Albany

North Carolina *Endorsement* Pinehurst May 1 *Written* Raleigh June 19 22. *Endorsement* Raleigh June 19 Sec Dr Ivan Procter 226 Hillsboro Street Raleigh

North Dakota *Examination* Grand Forks July 5 7 *Reciprocity* Grand Forks July 8 Sec. Dr C. J Glaspel, Grafton

Ohio *Examination* Columbus June 14 17 Sec. Dr H M Platter 21 W Broad St. Columbus 15

Oklahoma *Examination* Oklahoma City June 7-8 Sec., Dr Clinton Gallaher 813 Braniff Building Oklahoma City

Oregon **Endorsement* Portland April 28-29 *Written* Portland July Exec. Sec., Mr Howard I Bobbitt, 609 Failing Building Portland 4

South Carolina *Examination* Columbia June 26 29 *Reciprocity* First Monday of each month Sec., Dr N B Heyward 1329 Blanding Street Columbia

South Dakota * Sioux Falls July 18 19 Sec Dr C. E. Sherwood, 300 First National Bank Bldg Sioux Falls

Texas *Examination* Austin June 19 21 Sec. Dr M H Crabb 1714 Medical Arts Bldg Fort Worth 2.

Utah *Examination* Salt Lake City June. Dir., Dr Frank E. Lees 324 State Capitol Building Salt Lake City

Virginia *Examination.* Richmond June 23 24 *Endorsement* Richmond June 22 Sec Dr K D Graves 631 First St. S W Roanoke

Wisconsin * Milwaukee July 11 13 Sec Dr C A. Dawson River Falls.

Wyoming *Examination* Cheyenne June 5 Sec. Dr Franklin D Yoder Capitol Bldg Cheyenne.

Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Arkansas *Examination* Little Rock, May 9 Sec. Mr L. E Gebauer 1002 Donaghey Building Little Rock

Connecticut *Examination* New Haven, June 10 Exec Asst State Board of Healing Arts, M G Reynolds 110 Whitney Ave New Haven.

District of Columbia Washington April 17 18 Sec. Dr Daniel L. Seckinger 4130 E Municipal Building Washington

Florida *Examination* Gainesville June 3 Sec Mr M W Emmel University of Florida Gainesville

Iowa *Examination* Des Moines April 11 Sec. Dr Ben H Peterson Coe College, Cedar Rapids.

Michigan *Examination* Detroit and Ann Arbor May 12 13 Sec Miss Eloise LeBeau 101 N Walnut St. Lansing

Nebraska *Examination* Omaha May 2 3 Director Bureau of Examining Boards Mr Oscar F Humble, 1009 State Capitol Bldg Lincoln.

Oklahoma *Examination.* Oklahoma City April 11 Sec Dr Clinton Gallaher 813 Braniff Building Oklahoma City

Oregon Portland June 17 Sec Dr C D Byrne University of Oregon Eugene.

Rhode Island *Examination* Providence May 10 Administrator of Professional Regulation Mr Thomas I Casey [illegible] State Office Bldg Providence.

South Dakota Vermillion, June 2 3 Sec. Dr Gregg M. Evans, 310 E. 1[illegible]th Street, Yankton.

Texas *Examination* Austin, April 21 22. Sec., Dr [illegible] Wilson 306 Nalle Building Austin.

Medical Motion Pictures

FILM REVIEW

Surgical Approaches to the Scapulohumeral Joint 16 mm, color, sound showing time thirty minutes *This film is the first of a series on the surgical approach to the joints produced in 1949 by the Veterans Administration Department of Medicine and Surgery, in cooperation with the University of California Dr Leroy C Abbott acting as technical adviser Procurable on loan from Chief, Medical Illustration Division, Research and Education Service Veterans Administration, Washington 25 D C*

This motion picture is a combination of anatomic demonstration animated drawings and operating room technic It depicts accurately and clearly the bony, muscular, ligamentous, tendinous and neurovascular structures with which the surgeon must be familiar in the approach to the shoulder joint The various approaches are first shown by anatomic dissection, then retraced by animated drawings and finally, depicted by filming of actual surgical operations

The various approaches to the joint, namely, the anterior, lateral, posterior and muscle splitting, are demonstrated, always stressing the anatomy of the part The lesions for which these shoulders were opened were not described because they were simply incidental to the main purpose of the film In the operating room scenes the surgeons have carefully avoided obstruction of the field by hands or head, and the viewer gets a desirable sense of participation

The film is recommended particularly for those fellows and residents in orthopedic training and for those taking shorter postgraduate courses in surgery, as it combines the operative aspect with an excellent review of the anatomy of this region

The color quality of some surgical sequences could be improved, otherwise the photography, drawings and narration are well done

Injuries of the Peripheral Nerves 16 mm, color sound, showing time thirty minutes Directed by Loyal Davis, M D, George E Perret M D and an Advisory Committee Produced in 1949 by Mervin La Rue, Chicago for the American College of Surgeons under a grant from *Johnson & Johnson Research Foundation Procurable on loan from* Ethicon Suture Laboratories Johnson & Johnson New Brunswick, N J

This motion picture gives an excellent account of regeneration in peripheral nerves All aspects of the histologic processes are graphically visualized by means of animation There is no way of obtaining a clearer concept of repair in a peripheral nerve Degeneration and regeneration dominate the picture to its advantage Anatomic drawings of the principal large nerve trunks are included, they are of the type to be seen in all textbooks of anatomy

The nomenclature is not strictly uniform throughout The photography is good except for a few scenes which are overexposed In the section on regeneration, after suture the neuroma accidentally appears, though it was undoubtedly resutured by the surgeon

This admirable and time-consuming work should be seen by everyone interested in the subject It should be compulsory for medical students In a few minutes it illustrates in a dynamic manner what takes place in the tissues over a period of months The alternative would be hours of supervised work with specially selected material viewed through a microscope Ingenuity, knowledge and technical facility went into the making of this picture

The Method of Repair of the Posterior Tibial Nerve (PMF 5132) 16 mm color, sound showing time ten minutes Produced in 1949 by the United States Army Procurable on loan from Chief, Medical Illustration Service, Armed Forces Institute of Pathology, Washington, D C

That long defects can be bridged in a peripheral nerve is the principal lesson taught by this film No more important point could be brought out at this time Other methods of bridging gaps, such as the use of nerve grafts, are unsatisfactory Gaps up to 8 cm or more can easily be bridged by suitable preparation and dissection In this film a large gap in the tibial nerve is bridged by wide dissection and flexion of the knee joint Such a dissection cannot be done, however, without wide preparation of the skin before operation in anticipation of this possibility Although there is nothing new in this picture, it reemphasizes a vital point which seems to have been relegated to the background since 1922 It makes the difference between success and failure.

The surgical field was frequently bloody The narrator started out in an excited manner, as if describing a hurricane or the explosion of a bomb The color quality of the film was poor, and in a few close-up views the panning of the camera was disturbing

This motion picture could be shown to surgeons interested in operations on peripheral nerves It clearly shows that thoughtful preparation must be given to such an apparently simple neurosurgical problem as the repair of a peripheral nerve

Bureau of Medical Economic Research

MEDICAL ECONOMIC REVIEWS AND ABSTRACTS

Prepared by the Staff of the Bureau of Medical Economic Research

Cash Benefits for Extended Disability The Bearing of Insurance Company Experience on Social Insurance Proposals By George W K. Grange and John H Miller Reprinted from the Transactions, Actuarial Society of America Vol XLIX, Part I, No 119 May 1948 Paper Pp 54 71 Actuarial Society of America, 393 7th Ave, New York 1, 1948

This article grew out of a memorandum by the two authors to the Advisory Council on Social Security in 1948 The authors have limited themselves to an analysis of insurance company experience with the risk of disability, particularly long term disability

The exact time disability begins and ends is often difficult to determine A person may or may not extend his illness, depending on his need for income, the responsibilities he carries and his conscientiousness in facing them These psychologic factors influence almost every form of disability

Under a disability plan a person is indemnified for the loss of earnings during disability If the indemnity promised approaches the effective earning power, a condition of overinsurance occurs Overinsurance can be determined by comparing the disability income with the net income of the insured after deduction of overhead charges and withholding taxes In addition to these tangible conditions in overinsurance, certain intangible factors exist freedom from having to go to work, freedom to do chores at home and perhaps to move to a low cost area The authors define overinsurance as follows "Disability income plus the value of leisure, residual earning power, security of income and mobility must not exceed earnings available from employment at current wage rates, less worker's overhead, less income taxes"

Selection of risks is of major importance in disability insurance In individual policies such factors as occupation, moral hazard, financial conditions, sex and marital status and medical factors are taken into consideration Certain normal standards are set regarding these conditions If the risk is below normal, an extra premium may be required, certain types of disability excluded or the benefits reduced Group insurance involves different bases of selection appropriate to the group as a whole, such as type of industry, occupational accident and health hazard, employment and personnel policies, regularity of employment, financial stability and character and integrity of the management

Risk increases with occupational instability more than it does with any other characteristic Persons who fall into such groups as professional and salaried employees and employees having a definite place to work and definite hours may be expected to show "better than average" experience The problem of covering women in a disability plan is serious because of their tendency toward nervous disorders. As a result, the cost of disability benefits issued to women is from 50 to 100 per cent higher than it is for males.

For the disability plan of an insurance company premiums must be sufficient to pay current benefits and expenses and yet maintain suitable reserves against future liabilities which may not be covered by subsequent premiums. Otherwise the plan will become insolvent. Under social insurance where the government, in effect, underwrites the plan, the question is not whether the plan will remain solvent but whether it will weaken the social and economic structure of the country.

It is evident that the disability risk is closely related to the business cycle. During the depression years the increase in disability costs for insurance companies was even greater under the disability benefits included in group life insurance than it was under the noncancellable disability experience, although individual selection against the plan is avoided in this type of insurance. Data of individual companies in regard to total and permanent disability benefits included in ordinary life insurance policies show that the claim rates increased from 50 to 100 per cent from 1929 to 1933. The use of disability income benefits as 'unemployment or retirement insurance' is illustrated by the increase of such benefits during the depression years with the downswing in the business cycle, followed by decided improvement, during the war years, as employment and earnings moved upward.

This article has considerable significance in the current controversy over compulsory sickness insurance. Advocates of compulsory sickness insurance have argued that the unfavorable experience of life insurance companies under individual disability policies was not relevant to the controversy because under compulsory sickness insurance large groups of persons would be insured. The present authors have shown clearly that in spite of no employee selection against the plan, the disability experience under group life insurance contracts was even worse than under individual noncancellable policies. Hence this technical article by Grange and Miller has cleared up one technical point in the current controversy.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Chiropractic Practice Acts (Georgia) Length of College Course Required.—The plaintiff, a licensed chiropractor, sought an injunction to restrain the defendant, the board of chiropractic examiners, from granting licenses to certain applicants. From the granting of an injunction by the trial court, the defendant board appealed to the Supreme Court of Georgia.

The plaintiff alleged that the defendant board was examining and licensing, or was about to examine and license, applicants for licensure who had not attended a college course meeting the standards required by the Georgia Chiropractic Act.

J J Nugent, one of the plaintiff's witnesses, testified that he had been practicing chiropractic since his graduation in 1922 that he is now Director of Education of the National Chiropractic Association had previously served as Secretary to the Connecticut Board of Chiropractic Examiners and is the author of several pamphlets and books of chiropractic and chiropractic education. He further testified that he had a part in drawing the 1939 amendment to the Georgia Chiropractic Act and at that time a majority of the chiropractic colleges offered a course of four years of nine months each, and he thought that was the standard. At that time there were twenty-five chiropractic schools, sixteen of which offered four year courses of nine months each, and nine of which gave courses covering a shorter period of time. He further testified that there are now twenty-one chiropractic colleges in the United States and that with the exception of one, all now teach four year courses of either eight or nine months each or both.

By section 5 of the original Chiropractic Act of 1921 said the Supreme Court no person was eligible to take the chiropractic examination provided for therein except a graduate of a chartered chiropractic school or college which teaches only attendance courses and requires a course of study of at least three years of six months each' This act was amended in 1939 by striking from section 5 'course of three years of six months each' and substituting in lieu thereof four year standard college course. Consequently as to educational requirements the statute now reads "Each applicant shall be of good moral character and shall be a graduate of a chartered chiropractic school or college which teaches only attendance courses and requires a four year standard college course. Just what the legislature intended for the substituted words to mean when written into the original chiropractic act, continued the Supreme Court, is after all the main question involved in this litigation. The plaintiff contends that the words 'A four year standard college course mean a four year course of nine months each and the defendants insist that they mean a four year course of six months each. Undoubtedly, the act as amended is ambiguous and being so it was necessary for the trial judge, in order to grant any of the relief prayed, to construe it and by his interpretation give it the meaning which the legislature intended it to have. After a rather lengthy hearing, the Supreme Court continued, the trial court held that it meant that only those graduates of a chartered chiropractic school or college which teaches only attendance courses and requires a four year course of nine months each are eligible to take the examination and be licensed to practice the chiropractic profession in this state. Concededly, by the amendment, the legislature intended to and did increase the educational requirements for membership in this profession. It is always the duty of a court in construing a statute, to ascertain and give full effect to the legislative intent. To accomplish this end, the sources of enlightenment are not limited, interpretation is a matter addressed solely to the intelligence information and learning of the judge and he is not restricted as to the means by which he may enlarge these faculties. The defendants earnestly insist that the trial judge has erroneously construed the act in question and placed the wrong interpretation on its meaning. We do not think so. The title or caption of the act—which, while no part thereof, may always be examined by the court, when the act is doubtful for the purpose of finding the legislative intent thereof—expressly states that the purpose of the act is to provide for a four year college course of nine months each as a requirement for taking the examination to practice the profession of chiropractic. The words, 'standard college course were employed and used by the legislature in the amending act for the purpose of prescribing its educational requirements for taking the examination to practice chiropractic after this court had held that 'the term 'scholastic year is one of common use and is generally understood to mean a term of about nine months. Furthermore, it is judicially known that the colleges of this state when the amendment was passed in 1939, had regular terms of about nine months usually running from about September to the latter part of the following May. On the hearing of this case the plaintiff in an effort to be helpful to the trial judge in properly construing the evidence brought up witnesses holding high positions in the field of chiropractic education who testified to facts which we think clearly show that a standard college course in chiropractic education means a course given by a college teaching that science for a regular scholastic year of nine months. It is not unreasonable to presume that the legislature had these facts before it when the amending act was passed. The Supreme Court therefore concluded that a four year course of nine months each was required of chiropractic applicants. Accordingly the judgment of the trial court in granting the plaintiff an injunction was affirmed.—*Moore et al v Robinson 5 S E (2d) 711 (Ga 1940)*

Current Medical Literature

AMERICAN

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Replacement Transfusions in Leukemia —Henstell and co-workers treated 3 patients, 2 boys aged 6 and 5 years and a man aged 35, with acute leukemia and 1 woman aged 58 with aleukemic lymphocytic leukemia by replacement transfusions A striking hematologic and clinical remission followed the transfusion in the adult patient with acute leukemia This result suggests the existence of antileukemic substances in normal human blood No response to the replacement transfusion was noted in the 2 children One of the 2 boys had remissions on two occasions following the transfusion of 250 cc of polycythemic blood This suggests the possibility that polycythemic blood contains "antileukemic" factors in greater amounts than normal human blood A fatal hemolytic reaction followed the replacement transfusion of 14,000 cc in the woman with aleukemic lymphocytic leukemia who had decided irregular isoagglutinins and autoagglutinins and hemolysins in her blood

Aminopterin Therapy in Leukemia —Hunter and Carroll treated 17 patients who had acute leukemias with 4-aminopteroylglutamic acid (aminopterin) The leukemias were of various types including granulocytic, lymphocytic and acute plasmocytic anemias Results were beneficial in all but 2 instances, but the beneficial effects were limited At present only 2 of the 17 patients are alive A daily dose of 3 to 4 mg of the drug may be used in the institution of treatment This may be cut down to 2 and to 1 mg daily This dose will usually use up the available folic acid in the body Care should be taken in the first four days to determine that no toxic effect due to overdosage occurs A rapid drop in the blood count would indicate overdosage and would be an indication to discontinue the medicament A rapid drop in the platelet or recticulocyte count would be a further indication to decrease the dose, since any rapid drop in these particular blood elements would progress four or five days after discontinuation of the drug This is particularly true in older patients and in patients who are unable to ingest an adequate diet Treatment may be continued with a maintenance dose varying from 0 5 to 1 mg daily A dose of 1 mg every other day was the level at which adequate control was most frequently maintained in the authors' experience During the induction period a diet should be worked out with the patient to limit intake of foods containing folic acid Folic acid, liver and vitamin B_{12} should be eliminated from the therapy Frequent blood counts and an occasional bone marrow study should be performed Toxic symptoms frequently observed are skin rash, ulcers in the mouth and mucous membranes, bleeding from the bowel and abdominal cramps Acute lymphocytic anemia appears to be more readily controlled with aminopterin than granulocytic leukemia. The doses required in the former disease are somewhat less and the difficulties from hemorrhage are less frequent It is practically impossible to successfully treat a chronic myelocytic leukemia with aminopterin The authors are convinced that aminopterin will control acute leukemia adequately for extended periods but that infections and variations in the nutritional status present obstacles which are impossible to control over an extended time These obstacles explain many of the therapeutic failures

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*Bilateral Breast Cancer J R Cullen and J E Burns —p 1041
Severe Allergic Reaction Following Penicillin N Kirsch —p 1044
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Psychological Factors in Atomic Warfare J P Cooney —p 1051

Intravenous Administration of Procaine Hydrochloride —Graubard and Peterson believe that the intravenous administration of procaine hydrochloride has had sufficient application to warrant its acceptance as an adjunct to the management of some clinical entities This report is based on their personal experiences during the past three years with over 700 patients who have received more than 3,500 infusions of procaine hydrochloride All infusions of the drug were given on the basis of the "procaine unit" 4 mg per kilogram of body weight in twenty minutes The solution had the strength of 0 1 per cent procaine in isotonic sodium chloride solution Ascorbic acid (vitamin C) was added to all solutions to make a 0 1 per cent dilution or 1 1,000 solution This addition was made to increase resistance to toxic side effects of procaine. The authors describe clinical observations on the intravenous administration of procaine hydrochloride for the relief of pain in various forms of trauma, fractures, sprains, traumatic arthritis, myofascitis, herniated intervertebral disk, postoperative pain, reflex sympathetic dystrophy and head injuries The inflammatory diseases treated include rheumatoid arthritis, rheumatic fever neuritides vascular diseases, arterial embolism, thrombophlebitis and bursitis The patients with degenerative diseases who were treated included 136 with osteoarthritis The group of miscellaneous cases included some with acute and chronic poliomyelitis congenital spasticity and paralysis agitans Although the knowledge of the action of intravenous procaine is far from complete sufficient data are now available to warrant increasing use of the drug What gives intravenous procaine a constantly increasing place in therapeutics is the aggregate of actions that it can exert simultaneously analgesic, sympatholytic and vasodilating secondarily, parasympathetic and anticontracting The authors conclude that intravenous procaine therapy is a safe procedure provided the administration is controlled. It warrants further investigation and should be considered as an adjunct in the management of pain.

Bilateral Cancer of the Breast—Cullen and Burns point out that in view of the microscopic variations often found if multiple sections are made of breast tumors and the multicentric origin of mammary cancer it is difficult to say that a second growth in the other breast is truly primary and not due to extension or metastasis At the St Francis Hospital in Hartford, with which the authors are connected Nolan and Landry collected 363 cases of mammary carcinoma treated over the past nine years Eighteen (5 per cent) showed bilateral involvement with 6 having bilateral mastectomy The bilateral surgical intervention in 1 case was done at the same time but the second operation in the remaining 5 cases took place nine months to sixteen years later It would be difficult to consider any of the cases as truly simultaneous in origin In the 4 cases in which bilateral lesions were discovered at the same time they were all advanced beyond operability The authors cite the history of a woman aged 45 in whom the right breast contained a hard tumor mass just above the nipple a small portion of the mass was adherent to the overlying skin In the left breast there was a firm, freely movable mass in the midportion of the medial side Biopsy of a frozen section of each tumor was reported as carcinoma The authors stress the following points 1 Bilateral cancer of the breast is found often enough on initial examination to warrant a careful study of both breasts 2 It is not easy to prove a separate and simultaneous origin for both tumors 3 Bilateral radical mastectomy should be performed when necessary 4 Frozen section of the tumors from both breasts should be examined at the time of surgical intervention and a treatment plan should then be based on the pathologist's report and the patient's general condition 5 When a patient has had a previous mastectomy for carcinoma, any mass developing later in the opposite breast should be considered as probably malignant 6 The only reliable method of arriving at the correct diagnosis of a breast tumor is surgical removal with the pathologist on hand to examine the specimen

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Potentialities in Congenital Syphilis—Quisenberry cites the history of a family in which the mother had cerebrospinal syphilis with mental disturbances and several of her children had congenital syphilis Two brothers and one sister of the mother likewise had syphilis of the central nervous system and the father (grandfather of the children) had syphilis and leprosy This shows that a neurotropic strain of Treponema pallidum has potentialities for causing congenital syphilis Children born to neurosyphilitic patients should be closely followed with particular attention to the nervous system The incidence of congenital neurosyphilis is much higher among children born to neurosyphilitic parents than in an unselected group of patient with congenital syphilis Cases of congenital syphilis often point the way to cases of acquired syphilis and lead to the discovery of other disease entities Progress has been made in the control of congenital syphilis It should be possible to virtually eliminate this disease through the employment of proper regulations careful examinations and modern therapeutic methods

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Transabdominal Bilateral Vagus Resection—Sanders performed transabdominal bilateral vagus resection on 100 patients with peptic ulcer between October 1946 and April 194[illegible] These operations were performed for gastrojejunal ulcer and for intractable obstructive and bleeding duodenal ulcers A gastroenterostomy was added to the vagus resection in 77 patients and a pyloroplasty in 2 patients The abdominal approach permits ample resection of the nerves, provided the left lobe of the liver is first mobilized The author considers the abdominal route preferable to the transthoracic, because the disease process may be visualized and a definitive surgical intervention, if indicated, may be performed through the same incision Convalescence is smoother and more comfortable, and complications are less likely to develop Seventy-nine of the 100 patients obtained an excellent result with complete or almost complete relief of symptoms Fifteen had good or fair results, continuing to experience some disturbance chiefly attributable to gastric atony Six were only slightly benefited The outcome in 5 of the latter is largely explained by the fact that the ulcers were mild in type, though in 1 of these the vagus resection was probably inadequate and another had an ulcer neurosis Bilateral vagus resection is most suitable for clearcut, active ulcers, preferably though not necessarily associated with a high level of free acid In such cases pain should be relieved immediately, and digestive disturbances should promptly or gradually subside as gastric tonus is restored In the typical case the postoperative acids are low even after the injection of insulin, and there is evidence of healing of the ulcer within a few weeks or months The prospect for cure is far more favorable if a pyloroplasty or gastroenterostomy is performed in conjunction with vagus resection

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Meniere s Syndrome Relieved by Electrocoagulation of Membranous Labyrinth Report of Case J G Druss —p 252

Cerebral Hemorrhage Following Heparin Therapy in Endocarditis —Cohen discusses the history of heparin, its relation to mast cells, its chemistry, mechanism of action, physiology and clinical application Friedman and others in 1939 introduced the combined heparin and sulfapyridine therapy for subacute bacterial endocarditis Heparin was added on the theory that it would prevent new fibrin and thrombocyte formation One of their patients died of a cerebral hemorrhage Kelson and White reported a series of 7 patients treated in the same way They too reported a death due to cerebral hemorrhage This method was also tried at the Mount Sinai Hospital in 1939, and in 2 instances cerebral hemorrhage and death occurred These 2 cases are herein reported The pathologic aspects of these 2 cases were unusual in that the blood in the areas of brain softening tended to remain fluid and showed little tendency to organize This serves to support the explanation of the cause of these hemorrhages and might shed further light on the sequence of events preceding the spontaneous cerebral hemorrhage Twelve other cases with postmortem reports were found in the literature in which treatment of subacute bacterial endocarditis either with a combination or sulfapyridine and an anticoagulant or with heparin alone was followed by a cerebral hemorrhage The coagulation time prior to death in these cases was thirty minutes or longer The author concludes that a previous area of encephalomalacia produced by embolus from a vegetation on a diseased valve served as an area of lowered resistance to the rupture of a cerebral vessel The decreased coagulability of the circulating blood due to heparinization permits uncontrolled extravasation of blood through a ruptured vessel into the surrounding area of tissue softening, leading to massive cerebral hemorrhage and death

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Brain Tumors in Children —Walker and Hopple report on 100 cases of brain tumors in patients who presented symptoms before their sixteenth birthday The tumors were proved by visual verification, and in all but 7 instances by microscopic examination of biopsy or autopsy tissue The highest age incidences (10 cases) occurred in children aged 6 years The peak at this period is probably due to the tendency of medulloblastomas to occur at this age There were 19 hemispheral tumors, 20 third ventricle tumors, 45 cerebellar tumors, 12 tumors of the pons and 4 tumors of the base A decided predilection for tumors to occur in the posterior fossa was observed, as well as a tendency for tumors to develop along the neural axis Not a single acoustic neuroma or pituitary adenoma and only 4 meningiomas were observed Many types of tumor commonly seen in adult life are rarely seen in childhood The symptoms of brain tumors presented by children are largely due to intracranial hypertension, although occasionally focal manifestations are present The mass of the tumor within the intracranial cavity is compensated for by a decrease in the amount of cerebrospinal and ventricular fluid, interstitial fluid and blood in the intracranial cavity This is accomplished by a molding of the brain to fill all space ordinarily occupied by cerebrospinal fluid Herniation about the mesencephalon or medulla may cause serious depression of vital functions The diagnosis of neoplasm is made on the course of the disease. Conditions which may simulate tumor must be eliminated In the absence of definite focal symptoms or observations the tumor is likely to be located within the posterior fossa Tumors of the third ventricle in children often do not produce diencephalic manifestations and cannot be distinguished clinically from tumors of the posterior fossa the aid of laboratory tests is essential in making a correct diagnosis in such cases Roentgenograms arteriography, air studies and radioactive isotopes may aid in the location of the tumor In the case of posterior fossa and hemispheric tumors a direct exploration seems advisable but in the case of third ventricle tumors the mortality is so high that palliative procedures are wise In most cases it is impossible to differentiate tumors of the third ventricle from those of the posterior fossa. It is advisable to explore the posterior fossa in such cases and, if no tumor is found, to do a Torkildsen ventriculostomy, later giving roentgen therapy This may lower the operative mortality of third ventricle tumors and insure that an operable tumor of the cerebellum has not been overlooked.

Diabetes Mellitus in Children—John reports on 500 cases of diabetes mellitus occurring in patients in the first two decades of life in a series of 6,000 diabetic persons observed during a period of twenty-seven years The incidence of diabetes mellitus in patients aged 20 or less was 8 3 per cent The sex distribution in the 500 cases was practically equal with 255 (51 per cent) boys and 245 (49 per cent) girls There was a hereditary or familial history of diabetes mellitus in 135 patients (31 5 per cent of the 427 patients in whom a history was obtained) with a somewhat higher incidence of 16 in 46 Jewish children of the group (35 5 per cent) There was a history of antecedent infection in 164 patients In the majority of these the diabetes appeared within two months after the infection Thus heredity and infection apparently are the most important etiologic factors in juvenile diabetes, whereas in older patients obesity and degenerative diseases play a predominant part Three hundred and sixty four of the 500 patients were traced to the present time. Three hundred and three (83.2 per cent) are living and 61 (16 7 per cent) are dead Diabetic coma was the principal cause of death accounting for 31 of the 61 deaths Eleven of the 61 patients died from intercapillary glomerulosclerosis, the second most important cause of death The other deaths occurred after infections surgical operations or accidents The largest number, 18 of 61 died within the first year after onset of the diabetes Thirty seven of the deaths occurred in boys and 24 in girls The incidence of diabetic coma has become considerably less than in the first decade after insulin was discovered 50 of 218 patients (23 per cent) seen from 1920 to 1934 had diabetic coma and 27 of 282 patients (9 5 per cent) seen from 1934 to 1948 had diabetic coma The optimism concerning the fate of diabetic children in the years immediately following the discovery of insulin has been modified considerably by the high incidence in these patients of premature arteriosclerotic changes, which lead to blindness and early death in many instances The incidence of albuminuria (26 of 83 patients who submitted regularly to periodic examinations over a period of years) did not increase significantly with longer duration of diabetes

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Michigan State Medical Society Journal, Lansing

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Rh and Other Blood Groups L K Diamond and F H Allen Jr—p 867
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Liver Function Tests in Alcoholic Patients—Lepehne made liver function tests on a large number of unselected alcoholic patients Parenchymal hepatic damage was demonstrable by the cephalin cholesterol flocculation test in 37 86 per cent of 140 specimens examined, by the quantitative urobilinogen test on the urine in 30 15 per cent of 2 308 specimens examined by the methylene blue test for bilirubinuria in 21 33 per cent of 150 specimens examined and by the sulfur test for cholic acids in the urine in 19 40 per cent of 660 specimens examined These figures are consistent with the results obtained by former investigators *There is no regular correspondence between the* four tests In the acute stages the urobilinogen test and the cholic acid test seemed to be more sensitive than the urobilinogen test In the more subacute and chronic stages the cephalin flocculation was sometimes the only positive test A good screening method for office practice to detect early hepatic disturbance is the simultaneous performance of the qualitative urobilinogen test the modified sulfur test for cholic acid and the methylene blue test for bilirubinuria The urobilinogen test should be made on the *afternoon specimen, because in 36 6* per cent of cases the afternoon excretion of urobilinogen exceeded the morning excretion The hepatic dysfunction in alcoholic patients may be largely transient Even serious damage can subside within a month The occurence of severe cirrhosis was rare This corresponds well with the opinion that hepatic cirrhosis develops only when several damaging factors have been present. The combination of the modern treatment of alcoholism by the conditioned reflex and psychiatric methods with an early modern anticirrhotic therapy may prevent the development of hepatic cirrhosis in these patients

Agranulocytosis Following Tripelennamine Therapy—Cahan and his associates say that the effectiveness of tripelennamine (pyribenzamine®) hydrochloride in many allergic states and its apparent freedom from toxicity have led to its widespread use with little fear of serious reaction They cite the case of a woman aged 39, who entered the hospital complaining of a sore tongue and mouth of three days' duration The past history included migraine headache, for which she had frequently used an acetylsalicylic acid compound There was no history of allergic reactions to foods or drugs until two months before admission, when she noted a rash Seven weeks before entry she was treated with diphenhydramine (benadryl®) hydrochloride lotions and salves without effect Medications were changed to tripelennamine hydrochloride, 50 mg three times daily, chloral hydrate for sleeplessness and ergonovine maleate for her headaches On this program the rash and itching subsided Three and a half weeks before admission the tripelennamine hydrochloride dosage was reduced to 25 mg three times daily She had used no medicament except tripelennamine for at least a week preceding the onset of the present illness During the five and a half weeks preceding her illness, she had taken a total of 4 0 Gm of tripelennamine hydrochloride She had had a normal menstrual period beginning two days before the onset of her illness The drug seems to be incriminated on the basis of the history The depression of the granulocytes that occurred only after prolonged administration of tripelennamine seems analogous to the leukopenia seen after extended use of such drugs as the sulfonamides thiouracil or propylthiouracil Although folic acid was used in therapy, the authors do not believe that it played a role in recovery, since the rise in the white cell count had begun before folic acid was given The significant monocytosis observed initially and in subsequent examinations may be considered evidence of the onset of spontaneous recovery Thompson reported cyclic neutropenia preceding the menstrual flow, and he believed that the onset of menstruation was a predisposing factor in the precipitation of agranulocytosis In the authors' case the acute symptoms began two days after the beginning of the menstrual period The authors stress the advisability of performing white cell counts on any patient receiving tripelennamine hydrochloride for prolonged periods and showing signs of agranulocytosis

New York State Journal of Medicine, New York

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Gastric Resection for Peptic Ulcer in Poor Risk Patients J D Stewart H W Hale Jr and J L Hay —p 2911
Gastric Malignancy J J Morton —p 2915
Selection of Operation for Carcinoma of Lower Portion of Colon and Rectum C W Mayo —p 2919
*Renal Lipomatosis J C Farrow, J B Cross, S Tannhauser and J T Andrews —p 2924
Ureterosigmoid Anastomosis by Direct Elliptic Connection R M Nesbit and A W Bohne —p 2933
Etiology and Treatment of Pancreatitis H Doubilet and J H Mulholland —p 2938
Diabetes Control in Public Health Program H L C Wilkerson —p 2945
Genitourinary Symptoms Due to Extrinsic Disease W J Kennedy —p 2953
Relative Importance of Leading Causes of Death in New York City G J Drolet —p 2956

Renal Lipomatosis—Farrow and co-workers report 2 men and 6 women with renal lipomatosis, which is a relatively little known pathologic entity in which varying amounts of destroyed renal parenchyma become replaced by fat Five of the 8 patients showed far-advanced replacement of the renal substance, the process was moderately advanced in 1 and minimally present in 2 Microscopic analysis suggested a mechanism for the pathogenesis of renal lipomatosis somewhat different from those propounded by other authors, namely, that lipomatosis develops through the transitional stage of a lipoid granuloma, which is then replaced by adult fat tissue It is considered that no invasion from the renal sinus is necessary to explain this replacement Attention is drawn to similar processes in chronic inflammation of other organs The role of renal calculi in establishing and maintaining severe renal infections is stressed

Proc Soc Exper Biol & Med, Utica, N Y

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Enzyme Inhibition in Relation to Chemotherapy W W Ackermann and V R Potter —p 1
Inhibitory Effect of Nitrogen Mustard (Bis Beta Chloroethyl Amine) on Lesions of Experimental Serum Hypersensitiveness S C Bukantz G J Dammin, K S Wilson and others —p 21
Effects of Beta Rays on Central Nervous Tissues B Campbell and R Novick —p 34
Failure of Aureomycin in Treatment of Experimental Tuberculosis T L Perry —p 45
"Crystalline" Virus Like Particles from Skin Papillomas Characterized by Intranuclear Inclusion Bodies M J Strauss, E W Shaw, H Bunting and J L Melnick —p 46
Effect on Prothrombin of Acute Massive Plasmapheresis with Simultaneous Chloroform Intoxication J R Carter, G H Chambers and E D Warner —p 52
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*Influence of Alloxan Diabetes on Cholesterol Atheromatosis in Rabbit H C McGill Jr and R L Holman —p 72
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Rat Growth Assay for Vitamin B_{12} D V Frost, H H Fricke and H C Spruth —p 102
*Prevention of Secondary Infection due to Pseudomonas Aeruginosa in Frostbitten Tissue J Pichotka and R B Lewis —p 127
*Use of Heparin in Treatment of Experimental Frostbite J Pichotka and R B Lewis —p 130
Determination of Iodine ^{131} in Urine R R Edwards, W A Reilly and R G Holmes —p 158
Seasonal Variation in Human Fasting Blood Sugar Levels L F Hallman and E Orent Keiles —p 171
Inhibitory Effect of Cow s Milk on Influenza Virus Hemagglutination F Lanni, Y T Lanni and J W Beard —p 227
Distribution of Bacitracin in Body P Teng, F S Levin and F L Meleney —p 244
Neutralization of Three Immunological Types of Poliomyelitis Virus by Human Gamma Globulin D Bodian —p 259

Alloxan Diabetes and Cholesterol Atheromatosis—McGill and Holman found that when rabbits with alloxan diabetes were fed with a cholesterol-enriched diet, their blood cholesterol levels became much higher than those of normal rabbits fed the same diet Atheromas appeared consistently in controls and also in alloxan-injected, nondiabetic rabbits after forty-one days on this diet but only to a slight degree in 1 diabetic rabbit fed the same diet for ninety-eight days These observations indicate that under the conditions of this experiment alloxan diabetes retards in time and degree the development of cholesterol atheromatosis in the rabbit and that it represents a conclusive demonstration that hypercholesterolemia of itself does not lead to the formation of atheromas

Prevention of Infection in Frostbite—Pichotka and Lewis point out that one of the major problems in investigations on frostbite is the prevention of infection of the frozen tissue Without prophylactic treatment infection occurs in practically all cases of severe frostbite They describe the results of the application of penicillin and sulfamylon® (4-amino-2-methyl-benzene sulfonamide hydrochloride) to the injured area after severe experimental local cold injury They found that of 78 animals with severe experimental frostbite 30 cases of infection with Pseudomonas aeruginosa (Bacillus pyocyaneus) occurred, although the frozen area was treated locally with penicillin ointment Of 212 animals with the same degree of cold injury treated with 3 per cent sulfamylon® ointment, only 4 animals developed local infection with Ps aeruginosa In 180 of these animals the dressings were changed daily and none became infected The dressings of 32 animals were changed every two to four days, in this group 4 infections occurred The authors conclude that sulfamylon® is superior to penicillin in its effect on infections due to Ps aeruginosa

Use of Heparin in Frostbite—Pichotka and Lewis tried to reproduce the excellent results which Lange and his collaborators had obtained with heparin in the prevention of gangrene after local cold injury A total of 153 rabbits had their legs exposed to temperatures of —25 C or —15 C for thirty minutes and subsequently were treated with heparin administered intravenously for a period of six days Eighty animals were frostbitten at the same temperatures and for the same exposure times and used as untreated controls A statistical analysis of the results showed that tissue necrosis from frostbite was not significantly less in the heparin treated animals Of 153 animals that were treated with heparin 74 died, only 17 of 80 control animals succumbed during the experiment The fatalities in the heparin treated series were due to fatal internal hemorrhages in 53 cases, to a shocklike condition in 17 and to unknown causes in 4 The death rate was significantly increased in animals that received heparin in doses proposed by Lange and associates

Public Health Reports, Washington, D C

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64 1499-1538 (Nov 25) 1949

Better Patient Care Through Coordination J R McGibony and L Block —p *1499*

64 1539-1574 (Dec 2) 1949

Financial Aid and Case Work Services to Tuberculous Patient and Family *San Antonio Plan J Zeck —p 1541*
Characteristics of Commercial X Ray Screens and Film W W Van Allen —p 1560
Evaluation of Histoplasmin Reaction in Detection of Naturally Occurring Histoplasmosis in Dogs J A Prior C R Cole and V Torbet. —p *1562*

64 1575-1602 (Dec 9) 1949

Average Poliomyelitis Incidence Reported in the Counties of the United States 1932 1946 A G Gilliam F M Hemphill and J H Gerende —p 1575
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64 1603-1630 (Dec 16) 1949

Report of Nutrition Demonstration Program in Ottawa County Michigan E. S Osborne Jr E C Tabor M M Bousler and others —p 1603
Oral Administration of Killed Brucella to Man V B McCullough C W Eisele and G A Beal —p 1613
**Recovery of C Burnetii from H Savignyi Collected in Spain* R R Parker J de Prada E J Bell and D B Lackman —p 1616

Oral Administration of Killed Brucella in Man—McCullough and his associates point out that Brucella agglutinins have been observed in many persons who have had no illness suggestive of brucellosis and no known adequate exposure to live Brucella organisms It is also recognized that there is a high incidence of dermal sensitivity to Brucella products in the absence of a history of illness or exposure This is true even among persons who have always lived in large cities and can give no history of raw milk consumption There is a possibility that the ingestion of dead Brucella in pasteurized dairy products may be responsible for the presence of Brucella agglutinins The authors describe experiments designed to clarify this point Healthy adult male volunteers at a state penal institution were the subjects Volunteers were carefully selected in reference to previous exposure history and residence It was found that prolonged feeding of killed Brucella to healthy persons even with maximum total doses of 49 billion organisms, failed to produce significant agglutination titers or dermal sensitivity

Occurrence of Coxiella Burnetii in Spain.—Parker and his associates say that two strains of Coxiella burnetii (Rickettsia burnetii) have been recovered from 16 adult specimens of Hyalomma savignyi collected from a sheep in the Province of Salamanca, Spain This is the first proof of the occurrence of C burnetii in that country, although its clinical presence has been suspected for some time The identification of the infectious agent isolated from the two groups of H savignyi as C burnetii is justified by the positive complement fixation and immunity tests for Q fever Blanc and co workers in 1946 reported the recovery of C burnetii from ticks of this same species collected from the ground near the burrows of gerbils (Meriones shawi) in Southern Morocco This strain was forwarded to the Rocky Mountain Laboratory in specimens of Rhipicephalus sanguineus Although these ticks were dead and quite dry on receipt in October 1946, the infectious agent was readily recovered from them, and complete cross immunity was demonstrated between this Moroccan strain and American Australian Italian and Panamanian strains of Q fever

Radiology, Syracuse, N Y

53 625-780 (Nov) 1949

Roentgen Demonstration of Displaced Intracranial Physiologic Calcification and Its Significance in Diagnosis of Brain Tumors and Othe Space Occupying Diseases B R Young —p 62
Eighth Nerve Tumors Their Roentgen Manifestation P J Hode E P Pendergrass and B R Young —p *63*
Roentgenologic Observations Concerning Erosion of Sella Turcica J D Camp —p 666
Roentgen Diagnosis of Meningiomas of Sphenoidal Ridge E. P Pendergras J W Hope and C R Perryman —p 67
Spinal Cord Tumors J R. Hannan C. R. Hughes and B E. Mulve —p 711
Prepyloric Local Gastritis J B Haworth and A B Rawl —p 720
Full Cycle Angiocardiography W H Thompson M M Figley an F J Hodges —p 729
Roentgen Manifestations of Q Fever C Jacobsen R B Denlinger an R A Carter —p 739

Eighth Nerve Tumors Their Roentgen Manifestations—According to Hodes and his collaborators tumors of th eighth nerve account for about 6 per cent of all intracrani neoplasms They are particularly suited to surgical removal To determine how often radiologists help in the diagnosis o eighth nerve tumors the authors reviewed the records of 12 patients with proved tumors of the eighth nerve and analyze particularly the records of 70 patients whose roentgenogram they were personally able to study The eighth nerve lies i intimate relation with the fifth nerve, the seventh nerve th nervus intermedius and the anterior inferior cerebellar artery and vein which course as a group through the cerebellopontine angle These structures are usually affected by acoustic tumors The roentgen appearance of the pori acustici varies considerably in different heads and in both sides of the same head Histologically eighth nerve tumors fall into three classifications neurinoma von Recklinghausen s neurofibroma and von Recklinghausen s neurofibromatosis associated with meningiomas Acoustic neurinomas are usually single lesions When bilateral they commonly belong to the neurofibroma group which is often familial The clinical signs in acoustic tumors follow a progressive pattern At first they are limited to the fifth seventh and eighth nerves As the tumors grow they encroach on the pons and cerebellum producing ataxia dysmetria and adiadochokinesia Finally increased intracranial pressure supervenes Roentgenographically these tumors are characterized by erosion of the internal auditory canal Commonly they also reveal the roentgen manifestations of increased intracranial pressure Approximately 16 per cent of this series of 70 patients with tumors revealed little or no evidence of erosion in the region of the internal auditory canal Of these many showed hypophysial changes in the lateral view indicative of an intracranial lesion Approximately 80 per cent of all eighth nerve tumors should be localized by roentgen methods In the present series the occipital view was most informative in 48 per cent of the cases the posteroanterior view in 37 per cent the Stenvers position in 8 per cent and the Hirtz position in 7 per cent Whereas 85 per cent of the tumors were recognized most readily in the anteroposterior and posteroanterior projections in 15 per cent the diagnosis might have been missed had a complete examination not been done

Rhode Island Medical Journal, Providence

32 587-650 (Nov) 1949

Common Syndromes Often Misdiagnosed W C Alvarez —p 603
Double Kidney Report of 2 Cases F A Welter —p 608
Sub-Acute Bacterial Endocarditis Review of 45 Cases E. J Heitzman and F B Cutts —p 611
Ocular Problems of the Older Patient R P Chace —p 613

South Dakota Journal of Medicine, Sioux Falls

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2 319 356 (Nov) 1949

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Discussion of Polio S B Stegeman —p [illegible]
Contribution of South Dakota Basic Science School to the Population of Its State and Area W L Hard—p [illegible]
Conference of Deans—Medical Schools Midwest Area—Deadwood S D July 14 15 1949 D Slaughter —p [illegible]
For Manners Are Not Idle L. A Bane —p [illegible]

Southern Surgeon, Atlanta, Ga

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Results of Prefrontal Leukotomy at South Carolina State Hospital C J Lemmon Jr and J E Freed—p 848.
Disseminated Calcification of Pancreas with Case Report L P Good—p 857

Surgery, Gynecology and Obstetrics, Chicago

89 657-790 (Dec) 1949

Efficacy and Safety of Intramuscular Administration of Bacitracin in Various Types of Surgical and Certain Medical Infections with Analysis of 270 Cases F L Meleney, A B Longacre, W A Altemeier and others—p 657
Mechanical Heart Lung System J Jongbloed—p 684
Abnormal Bleeding—II Further Clinical Experience with Toluidine Blue and Protamine Sulfate J G Allen, B J Grossman, R M Elghammer and others—p 692
*Extension of Primary Neoplasms of Bone to Bone Marrow J E Upshaw J R McDonald and R K Ghormley—p 704
Cerebral Blood Flow and Metabolism in Toxemias of Pregnancy M L McCall—p 715
Studies on Effects of Concomitant Venous Ligation in Acute Arterial Occlusion M I Cullen I G Steppacher, B Greenspan and others—p 722
Thyroglossal Tract Abnormalities—Cysts and Fistulas Report of 105 Cases from Johns Hopkins Hospital Observed During Years 1926 to 1946 G F Ward J W Hendrick and R G Chambers—p 727
Eradication of Benign Lytic Bone Tumors and Immediate Reconstructive Surgery with Emphasis on Benign Giant Cell Tumors D H Levinthal and G I Kraft—p 735
Transverse Incision for Pyloromyotomy J J Keeley—p 748
Anatomy of Hernial Regions II Femoral Hernia B J Anson A F Reimann and L E Swigart—p 753
Observations on Clotting Mechanism in Menstruation and Menorrhagia R M Elghammer B J Grossman A K Koff and others—p 764
Multiple Primary Cancer Study of 36 Patients W D Barrett, K T Miller and C R Lessenmeyer—p 767

Intramuscular Administration of Bacitracin—Meleney and associates report on 270 cases, representing a wide variety of surgical infections and certain medical infections, treated with intramuscular injections of bacitracin over a period of twenty-two months by six observers in different areas of the country About three fifths of these infections had failed to respond to other antibacterial agents, yet 55 6 per cent then responded favorably to bacitracin These are called "salvaged cases" The other two fifths had had no previous treatment, and 78 1 per cent of these have responded favorably to bacitracin *Bacteriologic studies indicate that the majority of infections were* due to a mixture of organisms Treatment with bacitracin produced favorable results in these mixed infections almost as readily as in the pure infections Tests for susceptibility of the organisms to bacitracin and penicillin showed that the majority were susceptible to both drugs, but where there was a difference the ratio was 10 to 1 in favor of bacitracin Many of the patients have built up a resistance to penicillin during previous treatment with that drug There were three phases with regard to the type of bacitracin used (1) the period when the patients were treated by the "surface growth bacitracin" and evidences of nephrotoxicity were minimal, (2) the period when patients were treated by the 'early deep tank bacitracin" and evidence of nephrotoxicity were disturbing, and (3) the period when patients were treated by bacitracin meeting the Food and Drug Administration toxicity test of an LD_{50} of 500 units for a 20 Gm mouse, during which phase confidence in the efficacy and the safety of bacitracin has been restored

Extension of Primary Neoplasms of Bone to Bone Marrow—Upshaw and his co-workers investigated the possibility of medullary extension from various types of primary osseous neoplasms Material was obtained from extremities amputated prior to death The study consisted of gross and microscopic examinations of the bone marrow in specimens available in 50 cases of osteogenic sarcoma, 20 of Ewing's tumor and 5 of primary chondrosarcoma The lesion and the limits of cortical involvement as seen grossly were measured and recorded The remainder of the bone was then examined for evidence of medullary extension past the confines of the cortical involvement After the gross features indicating involvement of the bone marrow were noted, specimens were taken from the bone marrow for microscopic study at regular short intervals throughout the length of the bone. Slides were made from these specimens, and the limits of medullary involvement were determined by microscopic study Slides of the main lesions also were examined and the type of neoplasm was established Follow-up data were obtained in most of the cases An attempt was made to correlate neoplastic medullary extension with survival rate The end results obtained in cases in which amputation had been performed across the bone containing the lesion were compared to the end results in cases in which the extremity had been removed by disarticulation of the joint or amputation across the bone proximal to the bone containing the lesion The final portion of this work consisted of a statistical study of a separate group of cases of osteogenic sarcoma in an attempt to determine whether some of the observations made in the 50 cases of osteogenic sarcoma selected for the primary study were statistically significant The records in all cases of osteogenic sarcoma encountered at the Mayo Clinic between the years 1910 and 1935 were examined The authors conclude that direct extension is the usual route by which a primary bone sarcoma spreads in the bone marrow Medullary extension from a primary bone sarcoma may occur without roentgenologic evidence of its presence, and it may be found on microscopic examination for a considerable distance past any gross evidence of medullary extension in many cases of primary bone sarcoma Of the primary bone neoplasms studied, Ewing's tumor exhibited the greatest tendency, osteogenic sarcomas the next greatest and primary chondrosarcomas the least tendency to spread in the bone marrow Of the predominant cell types of osteogenic sarcoma, the osteoblastic type exhibits the greatest tendency and the chondroblastic type the least tendency to extend in the bone marrow In the treatment of primary bone sarcoma by amputation, microscopic examination of the bone marrow at the point of amputation should be mandatory in every case in which amputation is performed through the bone containing the lesion before the surgeon concludes that the amputation is proximal to the lesion When any doubt exists, amputation should be performed at a higher level The inadequacy of roentgenologic and gross methods of examination used alone for the detection of extension in the bone marrow was illustrated in the study of the survival rates in cases of the osteogenic sarcomas It was found that in the case of osteogenic sarcoma in which amputation was proximal to the bone containing the lesion results were superior to those in cases in which transection was carried out through the bone containing the lesion

Tennessee State Medical Assn Journal, Nashville

42 375-408 (Nov) 1949

Interesting Vascular Lesions J B Ely—p 375
Important Points in Differential Diagnosis of Jaundice L M Johnston—p 381
Diagnosis and Treatment of Tumors of Orbit Report of 2 Cases Epidermoid Tumor (Primary Cholesteatoma) and Pseudo-Tumor Granuloma G A Lawrence—p 385

Texas State Journal of Medicine, Fort Worth

45 795-872 (Dec) 1949

Thoracic Surgery and General Practitioner J S Harter—p 801

PULMONARY NEOPLASMS, SYMPOSIUM

I Considerations in Their Earlier Apprehension C R Johnson—p 806
II Diagnostic Value of Cytology Studies on Sputum and Bronchial Aspirations J L Wallace—p 808
III Analysis of Series Occurring on Thoracic Surgery Service C E Gordon, D H Brandt and J M Hill—p 812
Neoplasms of Lymphatic System S Warren—p 816

West Virginia Medical Journal, Madison

45 325-364 (Dec) 1949

Secretory Otitis Media S S Hall—p 325
Epigastric Hernia (Report of Cases) W R Wilkinson—p 328
Simplified Test for Low Sodium Diet Test for Primary Water Depletion vs Primary Salt Depletion M Koenigsberg—p 332
Application of Thoracic Surgery M G Buckles—p 335

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted. Single case reports and trials of new drugs are usually omitted.

British Journal of Cancer, London

3 311-432 (Sept) 1949 Partial Index

Increase in Deaths Attributed to Cancer of Lung J A Heady and E. L Kennaway —p 311
Culture of Human Leukaemic Blood Cells in Vitro Effects of X Rays F W Gunz.—p 330
*Induction of Breast Cancer by Oestrogens and Methylcholanthrene in High and Low Breast Cancer Strain Mice L Dmochowski and J W Orr —p 376
Prevention of Abdominal Fibroids Induced with Artificial Oestrogen S Bruzzone —p 398
Effects of Thiourea on Development of Spontaneous Tumours on Mice E Vazquez Lopez —p 401
Influence of Protein Content of Diet on Response of Walker Rat Carcinoma 256 to X Radiation L A Elson and L F Lamerton —p 414

Induction of Breast Cancer in Mice—Dmochowski and Orr describe experiments which were undertaken in order to ascertain the possibility of induction of breast cancer in mice of a high cancer strain and of a low cancer strain by treatment with estrogenic hormones, methylcholanthrene and combined application of estrogens and methylcholanthrene Breast tumors developed in male mice of C3H high breast-cancer strain and C57 black low-breast-cancer strain following cutaneous administration of a 0 5 per cent solution of methylcholanthrene in almond oil, combined with painting with a 0 02 per cent solution of estrone in alcohol No tumors developed in males of these two strains following treatment with methylcholanthrene alone while the application of estrone gave breast tumors in C3H strain males but not in C57 black strain males Mammary cancer developed in both breeding and nonbreeding C57 black low-breast-cancer strain females after similar treatment with methylcholanthrene

British Journal of Radiology, London

22 617-676 (Nov) 1949

Fluoroscopic Preselection of Tomographic Plane in Chest Lesions with Note on Use of Double Grid E Calder —p 627
Choledocho-Enteric Fistulae (Internal Biliary Fistulae) F Greenwood and E Samuel —p 634
Radiological Features of Chronic Pulmonary Schistosomiasis H Erfan and A. A. Deeb —p 638
Radiological Localisation of Placental Site Part II Radiological Diagnosis of Placenta Praevia F Reid —p 643
Special X Ray Table for Angiocardiography and Cerebral Angiography J D F Williams —p 666
Stabilisation of X Ray Therapy Apparatus by Ionization Current C G Clayton and F T Farmer —p 669

British Medical Journal, London

2 1191-1246 (Nov 26) 1949

Chemotherapy in Treatment of Malignant Disease E C Dodds —p 1191
Chemotherapy in Treatment of Malignant Disease S Cade —p 1193
Pruritus Vulvae T N A Jeffcoate —p 1196
Relief of Post Operative Pain and Its Influence on Vital Capacity H E Pooler —p 1200
*Low Salt Diet in Treatment of Hypertension and Hypertensive Heart Disease H O Bang P Bechgaard and A L Nielsen —p 1203
Symptomatic Treatment of Myotonia Atrophica L Bussell —p 1206
Unusual Case of Simmonds s Disease D McCracken —p 1207
Amoebiasis in Infancy F C C de Silva —p 1208
Acute Phlegmonous Caecitis S G Nardell —p 1210

Low Salt Diet in Hypertension.—Bang and his associates of the Municipal Hospital of Copenhagen employed a diet containing less than 1 Gm of sodium chloride in the treatment of 26 patients with hypertension, in some associated with heart failure and/or nephropathy Sixteen of these experienced a fall in the blood pressure, which rose to some extent after a daily addition of 4 5 Gm of sodium chloride The fact that the addition, without the patient s knowledge, of sodium chloride during a period of low sodium diet makes the blood pressure rise again seems to show that sodium chloride as such plays a decisive part in some cases of hypertension The authors found that the low sodium diet also had a favorable effect on cardiac edema They warn, however that caution is required in certain chronic renal lesions where the kidneys are unable to reduce the sodium excretion in the normal way Here, as observed in 1 case it is possible to produce an extrarenal uremia due to sodium deficiency The authors believe that their results should stimulate workers to further experiments with the low sodium diet.

Journal of Clinical Pathology, London

2 241-306 (Nov) 1949 Partial Index

*Laboratory Diagnosis of Lymphogranuloma Venereum S P Bedson C F Barwell E J King and L. W J Bishop —p 241
Plate Virulence Test for Diphtheria S D Elek —p 250
*Laboratory Diagnosis of Toxoplasmosis I A B Cathie and J A Dudgeon —p 259
Urea Clearance Tests H F Smith —p 266
Interrelations of Serum Proteins in Liver Damage with Special Reference to Thymol Test N H Martin —p 275
Iso Immunization by Rare Rh Antigens as Cause of Haemolytic Disease of Newborn and Transfusion Reactions J J van Loghem and M v d Hart —p 284

Laboratory Diagnosis of Lymphogranuloma Venereum—Bedson and co-workers demonstrate that titers of 1 32 or over in the complement fixation test made with steamed virus of lymphogranuloma venereum and the serum samples from patients in whom the clinical observations are compatible with a diagnosis of lymphogranuloma venereum suggest active infection with the virus of lymphogranuloma venereum As others have observed, the serums from human infections with the viruses of psittacosis and lymphogranuloma venereum show a high degree of cross reaction in the complement fixation test with antigens made from these two viruses The Frei test also merely indicates that infection with a virus of the lymphogranuloma venereum and psittacosis group has occurred A positive Frei test together with a positive complement fixation test at a serum dilution of 1 16 or over in a patient suspected of having lymphogranuloma venereum is good evidence of active infection with the disease Acid extracts of lymphogranuloma venereum and psittacosis viruses appear to give specific reactions when injected intradermally in human infections with these two viruses

Laboratory Diagnosis of Toxoplasmosis —Laboratory methods available for the diagnosis of toxoplasmosis according to Cathie and Dudgeon, are the isolation of the Toxoplasma the demonstration of neutralizing complement-fixing and cytoplasm-modifying antibodies and the production of a skin reaction with toxoplasmin The authors describe these methods and point out ways of avoiding some of the technical difficulties

Lancet, London

2 973 (Nov 26) 1949

Diagnosis of Bone Tumours J F Brailsford —p 973
Chloromycetin in Treatment of Typhoid Fever 14 Cases Treated in Middle East A T Cook and D F Marmion —p 975
Malignant Disease of Thyroid Gland K M Branson and W Houston —p 979
Streptomycin in Treatment of Tuberculous Sinuses Review of 11 Cases R H Davis —p 982
Gastric Secretion and Subsequent Dyspepsia Follow Up Study R Doll I A Jones and N F Maclagan —p 984
Acute Disseminated Encephalomyelitis Following Herpes Zoster Vaccination and Immunisation I Wolman —p 985
Haemolytic Effects of Myanesin D R T Clendon and J B Penfold —p 987
Hypersplenism with Arthritis Report of Case W R Gauld —p 989
Hydrocolpos N C Sen —p 991

Chloramphenicol in Typhoid —Cook and Marmion report results obtained in 25 cases of typhoid from the Suez Canal Zone Fourteen of these were treated with chloramphenicol (chloromycetin®) and of these 3 had relapses which were similarly treated The authors treated 1 case each of paratyphoid A and B with results identical with those obtained in typhoid Chloramphenicol was not given in 11 cases The 2 most severe of these occurred before the drug was available 1 patient died of a perforation after a stormy course while the other relapsed ten weeks after becoming afebrile but eventually recovered Chloramphenicol was dispensed in capsules containing 0.25 Gm for oral administration Each course started with a dose of approximately 50 mg per kilogram of body weight (ten to fourteen capsules) Vomiting delirium and lack of cooperation often made it difficult to administer this large dose It would have been an advantage to have a preparation for parenteral injection After the initial dose one capsule was given every two hours until the temperature fell to normal and thereafter every four hours to complete the course of 20 to 22 Gm An average course took nine days General treatment followed accepted lines Chloramphenicol therapy terminates the fever within five days and arrests the progress of the disease Toxic effects were not observed

Streptomycin in Treatment of Tuberculous Sinuses — Davis reports results obtained with systemic administration of streptomycin in the treatment of cutaneous sinuses The 11 patients had 28 sinuses In 5 patients the sinuses originated in bone and joint, in 3 they developed in thoracoplasty wounds, in 2 they followed nephrectomy and in 1 patient a sinus followed Monaldi's drainage The dosage of streptomycin was usually 1 Gm daily but in some acute cases 0 75 Gm was given twice daily There was mild discomfort at the site of injection in most cases Complications were less than had been expected on the basis of earlier reports This confirms the observation that complications are considerably reduced if the dosage is kept below 2 Gm daily A ninety day course of streptomycin therapy seems to be satisfactory in most cases The persistence of sinuses is no indication for longer continuation, because some may still close A second course may be given after a short rest if there is renewed sinus activity In the present series 12 of the sinuses closed within two months another 15 within three months or more and 1 sinus remained open The general condition of the patients showed great improvement In some cases the sinus cachexia had been such that the streptomycin treatment proved a life-saving measure A favorable local *response was indicated* by the fact that the discharge from the sinus changed from purulent to serous and diminished in quantity within a month or less of the onset of treatment Systemic streptomycin therapy has definite value for sinuses developing in thoracoplasty or abdominal wounds of tuberculous origin and the response of sinuses originating in bone is dramatic A plea is made for the treatment of tuberculous abscesses by early drainage under streptomycin cover

Medical Journal of Australia, Sydney

2 553-588 (Oct 15) 1949 Partial Index

Diabetes Mellitus and Pregnancy D R Sheumack —p 553
Treatment of Tetanus, with Report of Case of Tetanus Neonatorum in Which Recovery Occurred A R Edmonds and K W Lavers —p 564
Conservative Treatment of Injured Back S H Scougall —p 566
Carcinoma of Thyroid Gland with Report of 2 Cases N G Hoddle —p 570
*Two Cases of Severe Pyloric Obstruction in Infants with Complete Absence of Pyloric Hypertrophy with Notes on Indications for Ramstedt Operation D C Fison and G Stable —p 574

Severe Pyloric Obstruction Without Hypertrophy — Fison and Stable present 2 almost identical cases of severe pyloric obstruction in infants in whom the pylorus was found to be anatomically normal One of these was treated medically and only inspected surgically, he died The other patient was subjected to a Ramstedt operation on his seemingly normal pylorus, and he made a good recovery The conclusion suggested is that such an operation should be performed on any baby with symptoms of pyloric obstruction if medical treatment has failed, even though the pylorus appears to be outwardly normal

Practitioner, London

163 481-568 (Dec) 1949 Partial Index

Modern Viewpoint on Influenza C H Stuart Harris —p 481
Diagnosis and Treatment of Empyema M Davidson —p 488
Primary Atypical Pneumonia C A Birch —p 496
Acute Respiratory Infections in Infants R E Bonham Carter —p 502
Use and Abuse of Penicillin in Respiratory Infections T Anderson —p 510
Oxygen Therapy J G W Hill —p 517

Proceedings of Royal Society of Medicine, London

42 763-860 (Oct) 1949 Partial Index

Carcinoma of Lung J S Fulton —p 775
Present Position in Surgical Treatment of Carcinoma of Thoracic Gullet C P Wilson —p 797
Observations on Familial Polycystic Disease of Kidney J D Fergusson —p 806
Radon Implantation for Acromegaly and Cushing's Syndrome D W C Northfield —p 845
Radiotherapy in Treatment of Pituitary Basophilism and Eosinophilism F Ellis —p 853

Acta Ophthalmologica, Copenhagen

27 311-454 (No 3) 1949 Partial Index

Effect of Protein Shock Therapy with Special Regard to Ocular Responses G Österlind —p 311
Effect of Peripheral Iridectomy in Secondary Glaucoma Resulting from Serous Iritis A Dellaporta —p 337
*Damage to Visual Organs Resulting from Typhoid Inoculations T Kornerup —p 383
Ocular Tension Changes Imposed by Raised Intentionally Varied Venous Pressure in *Case of* Pulmonary Tumor S E Brolin —p 393

Damage to Eyes Resulting from Typhoid Vaccine — Kornerup says that during World War I cases of neuritis, encephalitis and myelitis were observed in patients after vaccination with typhoid vaccine Some patients also had ocular symptoms, and some had ocular symptoms only During the recent war Swedish authors again reported the development of neurologic damage after typhoid inoculation Bjerner collected 50 cases of this type in 1945 Kornerup had the opportunity to examine 26 of Bjerner's patients, of whom all except 1 had subjective symptoms related to the eyes In 15 of the 25 patients with visual disturbances *no cause* other than the previous inoculation could be found Ocular examination of 10 of these patients revealed *signs* that seemed *to be connected* with the inoculations with mixed vaccine against typhoid, paratyphoid A and paratyphoid B Four of these patients had signs of optic neuritis or neuroretinitis, 1 showed optic atrophy, 3 had temporary color blindness and 2 had paresis of the external ocular muscles Many observers have described cases of keratitis dendritica and herpes corneae after this type of inoculation, but these complications are not to be looked on as specific sequelae after such inoculations, as they are seen also in other febrile conditions The cause of the complications described here is not known It is possible that a latent virus disease of the nervous system assumes an active phase after the inoculation In some cases allergy to the mixed vaccine may play a part

Acta Physiologica Scandinavica, Stockholm

18 259-366 (No 4) 1949 Partial Index

Effect of Two Wave Lengths of Light upon the Same Retinal Element R Granit —p 281
Anti Sympathetic Action of Sympathomimetic Amines A Åström —p 295
Regeneration of Motor and Sensory Fibers in Sciatic Nerve and Suralis Nerve of the Cat K R Inberg —p 308
*Total Quantity of Hemoglobin in Man and Its Relation to Age Sex, Body Weight and Height T Sjöstrand —p 324
*Food Sparing Effect of Liver Extracts *on* Rats G Ågren and T Nilsson —p 337

Quantity of Hemoglobin Relation to Age, Sex, Weight and Height —Sjostrand determined the total hemoglobin content in persons of both sexes ranging in age from 8 to 70 years In males the total quantity of hemoglobin increased with age and with physical growth up to the age of 22 In females the increase was similar to that in males up to the age of 12 or 13 years but was considerably less than in males up to the age *of 20, after* which it remained constant In males the quantity of hemoglobin showed an increase in relation to the body weight during the years of puberty and up to the age of 22, but in females there was a relative decrease from the age of 12 to 20 The average quantity of hemoglobin was 1 16 per cent of the body weight in the adult man and 0 86 per cent in the adult woman Even previous to the years of puberty the sexes showed a difference in the total quantity of hemoglobin with relation to the body weight The quantity of hemoglobin did not increase with the increase of weight after physical growth had ceased The quantity of hemoglobin showed good correlation with the height during the years of development The blood volume showed the same variability as the total quantity of hemoglobin, except that the difference between the sexes in adults was about 10 per cent lower as regards the blood volume than it was concerning the quantity of hemoglobin The author suggests that hormonal factors play a part in the difference in the production of hemoglobin between males and females during and after puberty

Food-Sparing Effect of Liver Extract —Ågren and Nilsson found that the administration of small amounts of a liver extract to young rats significantly increased the weight gain per gram of food eaten

Archivio di Patologia e Clinica Medica, Bologna

27 283 342 (No 5) 1949 **Partial Index**

Insulin in Treatment of Arteritis of Legs A Dalla Volta —p 283

Insulin in Treatment of Arteritis of Legs —Dalla Volta administered insulin to patients with arteritis of the legs in various phases of the disease He found that insulin given by the intramuscular or intravenous route has the pharmacodynamic effect of stimulating nutrition of the arterial wall It increases the peripheral circulation by the establishment of collateral circulation The increase blood supply controls the ischemia and local necrobiosis In diabetic gangrene intra arterial injection of insulin in doses of 50 units is well tolerated without causing hypoglycemia The vasodilating effect is smooth and is not preceded by vasospasm Intra-arterial injections of insulin in doses of 40 to 50 units can be given once or twice daily or every other day for three to five consecutive weeks followed by a period of a few days during which insulin is given subcutaneously, and then a repetition of the treatment Repeated treatment consists of doses of 50 units of insulin every other day for three to five consecutive weeks Immediate and lasting satisfactory results were noted in all cases as proved by disappearance of claudication, of pain and of the subjective and objective symptoms, and by reappearance of arterial pulsation and an improved oscillometric index In patients with nondiabetic arteritis, especially of Buerger s type the intra-arterial injection of insulin was made into the femoral artery in doses of 10 units The injections were given every day or every other day, up to a total of ten or fifteen for each series and this was followed by intramuscular injections of 20 units given every other day for three or five consecutive months after which the intra-arterial series was repeated In this type of nondiabetic arteritis the injections are followed by painful reactions and vasodilatation is preceded by vasospasm however the final results are as satisfactory as in the diabetic variety The author believes that insulin, by contacting the arterial wall stimulates the intima and elicits nervous reflexes which result in the production of hormones and which lead to local vasodilatation in the involved limb

Beiträge zur Klinik der Tuberkulose, Heidelberg

101 559-700 (March 26) 1949 **Partial Index**

Endothoracic *Pneumolysis a Method to Restore a Prematurely Subsiding* Pneumothorax E Markgraf —p 559
*Irreversible Harmful Sequels of Pneumothorax H Schmidt.—p 567
Prognosis of Resection for Secondary Intestinal Tuberculosis in Patients with Open Pulmonary Tuberculosis F Bohm —p 578
Concurrence of Thoracic Actinomycosis and Pulmonary Tuberculosis Case H H von Arnim —p 595
Diagnosis of Tuberculosis W Heinen and U Kowatzky —p 608
*Morphologic Aspects of Chronic Miliary Pulmonary and Meningeal Tuberculosis Following Treatment with Streptomycin W Berblinger —p 611

Irreversible Harmful Sequels of Pneumothorax.—Schmidt believes that collapse therapy should aim not only at the obliteration of the cavities but also at the preservation of the function of the heathy lung In pneumonolysis and thoracoplasty the functional impairment of healthy tissue can be estimated to a certain extent It is comparatively large in phrenic exeresis, but in pneumothorax it cannot be determined because it depends chiefly on the development of exudates and adhesions Pneumothorax cannot be regarded as a reversible process because the functional capacity of the lung is always impaired *not only by the fibrotic tissue replacing the* tuberculous lesion but to a much greater extent by the collapse and its sequels The author cites the physiologic widening of the thorax observed after pneumothorax although contraction of the thorax with rigidity of the lung is another possibility He believes that an expectant altitude is justified and that the likelihood of the development of adhesions or of bronchogenic dissemination during a waiting period is overestimated. He advises against the induction of pneumothorax as soon as pulmonary tuberculosis is suspected He has seen patients with pulmonary carcinoma actinomycosis, abscess bronchiectasis and cystic lesions subjected to pneumothorax therapy He suspects that patients with bronchopneumonic lesions or with temporary nontuberculous infiltrations are also occasionally mistakenly treated with pneumothorax Pneumothorax involves the danger of activating a lesion particularly in the presence of an exudative process In such cases more conservative measures should be used until the process has become quiescent He does not want to discourage pneumothorax therapy on the contrary he recommends it particularly for the closed forms of tuberculosis in patients up to the age of 30 The cases should be carefully selected and exudates should be prevented or promptly treated

Morphologic Aspects of Miliary Pulmonary and Meningeal Tuberculosis Following Treatment with Streptomycin. — Berblinger performed necropsies in 12 cases of tuberculous meningitis and 14 cases of hematogenous miliary pulmonary tuberculosis all of which had been treated with streptomycin for considerable periods Streptomycin therapy had produced a temporary improvement or even partial but not complete healing of meningitis The effect of streptomycin in miliary tuberculosis of lungs lymph nodes spleen and liver is anatomically evident in the different stages of fibrous transformation of the foci and their cicatrization If the liver has large numbers of miliary foci the cicatrization of the tubercles produces a cirrhotic transformation of the organ It is not known whether this may produce hepatic insufficiency In tuberculous meningitis the action of streptomycin likewise causes a transformation from the productive phase to the fibrous cicatricial phase. The author also mentions the sequels of the obliteration of the subarachnoid fluid spaces of the obliterating endarteritis and of the fibrosis of the intima These are not to be regarded as contraindications to streptomycin therapy

Nederl Tijdschrift v Verlosk en Gynec, Haarlem

49 399-452 (No 6) 1949 **Partial Index**

Malignant Melanoma of Vulva W P Plate —p 399
*Sarcoma of Vagina H Rottinghuis —p 407

Sarcoma of Vagina —Rottinghuis stresses the difference between vaginal sarcoma in adults and in little girls When it attacks the latter it is most frequent before the age of 5 and more than half of these cases occur before the age of 2 years It has even been discovered at birth Occurrence at puberty has also been reported as in the present case A girl aged 15 was referred to the gynecologic clinic by her physician because of leukorrhea of five weeks duration and fever A tumor of irregular outline could be felt directly behind the hymen Examination with the aid of a speculum revealed a white coating which explained the leukorrhea A malignant lesion was suspected Although the first biopsy did not corroborate this examination of another piece of the tumor revealed sarcoma and probably myosarcoma The patient died three and one half months after the beginning of treatment which consisted of excision and roentgen irradiation The prognosis in vaginal sarcoma is unfavorable Leukorrhea may be the only symptom and the tumor usually has reached considerable size before symptoms appear When it fills the vagina disturbances in micturition and hematuria may result

Nordisk Medicin, Stockholm

42 1753 1784 (Nov 11) 1949 **Partial Index**

*Increasing Frequency of Diabetic Retinitis H Vogelius —p 1753
*Peptic Ulcer and Constitution C Wretmark —p 1756
Celiac Disease A Tho —p 1762
Determination of Gamma Globulin and Total Lipoid in Serum Two Simple Methods E. Lowgren —p 1764
Causes of Attacks in Acute Porphyria. J Jørgensen and H Voldby —p 1769
Persisting Hypoprothrombinemia After Dicumarol J Burstein —p 1772
Streptomycin Sulfadiazine in Brucellosis E Bach Dalgaard —p 1776
Streptomycin Sulfadiazine in Brucellosis A Petersen —p 1776

Increasing Frequency of Diabetic Retinitis —Vogelius says that of 100 patients with diabetic retinitis treated at the Rigshospital up to 1946 42 received insulin and 58 did not have insulin About one third had normal blood pressure On the average the patients treated with insulin were younger at the onset of the diabetes than those not treated with insulin and showed initial symptoms of retinitis later Proliferative retinitis developed somewhat more slowly than the nonproliferative type perhaps because some of the injection passed through a pre-proliferative stage Retinitis is a definite indication for insulin therapy, which is the best means of controlling vascular complications, including retinitis *The* 22 patients under 50 years of age when retinitis was established had had diabetes on an average of 6 3 years before the retinitis appeared, and 20 of these had received insulin, their vascular systems are believed to have been especially susceptible Two factors regarded as the possible causes of the increase in the number of cases of diabetic retinitis are inadequate insulin treatment and the introduction of the free diet

Peptic Ulcer and Constitution—In Wretmark's comparison of a psychiatric material with slight mental deficiency having a history of peptic ulcer and a similar psychiatric control material, the physical constitution was determined by Stromgren's index and the mental constitution by Sjobring's system Wretmark found duodenal ulcer patients more leptosomatic than the controls In the duodenal ulcer series there were more unusually talented persons, more hysterical and asthenic persons and more with the combination of hysterical and asthenic characteristics but fewer syntonic persons than in the control series The gastric ulcer patients did not differ from the controls which seems to support the concept that gastric and duodenal ulcers should not be considered as separate entities Duodenal ulcer may belong to that type of disease in which a syntonic mental constitution in combination with a pyknic habitus may increase the patient's resistance and reduce the virulence of the disease

42 1785-1816 (Nov 18) 1949 **Partial Index**

Arteriosclerosis and Other Forms of Cholesterosis Review H Malmros —p 1785
*Blood Pressure and Heart Weight in Chronic Hepatitis Does Liver Play Part in Development of Essential Hypertension? T Raaschou —p 1791
Clinical Study of Barbiturates and Their Establishment in Blood in Barbiturate Intoxication I Helldorff C M Idestrom and G v Reis —p 1795
Hydremia in Acute Glomerulonephritis O Kløvstad —p 1800
Penicillin in Cervicofacial Actinomycosis O Gottlieb —p 1807

Arteriosclerosis and Other Forms of Cholesterosis Review—Malmros states that pathologic studies, animal experiments and clinical data suggest that arteriosclerosis is not only an age phenomenon but may also be due to the action of cholesterol Although cholesterol can be synthesized in the body, it *is to a certain extent* a foreign substance likely to be deposited on arterial walls and other tissues Xanthelasma, arcus corneae and xanthomatosis in joints and tendons are signs of cholesterosis Twenty-seven patients with xanthelasma or arcus corneae were seen *in* Örebro Hospital within two weeks, 6 were being treated or had been treated for myocardial infarction Excessive consumption of eggs, butter and other foods rich in cholesterol and fat is conceivably the cause of the numerous cases of myocardial infarction and other *forms* of cholesterosis In Sweden egg production is higher than ever before, and the increased mortality from myocardial infarction there since the war is *thought to be related* to the increased consumption of eggs and fat In Denmark, where egg and butter consumption has long been high, the death rate from myocardial infarction was high during the war and has not changed appreciably since In Norway *the mortality from my*ocardial infarction dropped during the war and continues to be *lower than* that in Sweden, egg and butter consumption in Norway is still considerably lower than in Sweden

Blood Pressure and Heart Weight in Chronic Hepatitis Does Liver Play Part in Development of Essential Hypertension?—Raaschou compared the incidence of arterial hypertension in a necropsy series of 102 women with subchronic atrophy of the liver and a control necropsy series of 93 women representing the same age grouping His analysis showed that *the frequency* and degree of hypertension, determined by the frequency of cerebral hemorrhage, cardiac hypertrophy and hypertension measured in life, were substantially higher in the control series than in the hepatitis cases Whether the low blood pressure and the absence of cardiac hypertrophy are specific for the liver affection is not known A theory is advanced that a causal relation exists between the grave hepatic disease and the low frequency of hypertension

Praxis, Bern

38 975-994 (Nov 3) 1949

*Surgical Intervention on Pelvic Sympathetic Trunk in Treatment of Dysmenorrhea Late Results of Resection of Presacral Nerve J P d'Ernst —p 975
Hormonal Therapy of Certain Gynecologic Disorders (Excluding Sterility) O Kaser —p 981

Presacral Neurectomy for Dysmenorrhea—D'Ernst performed presacral neurectomy on 88 women (average age 29 years) during the period 1939 to 1947 Of these patients 56 had dysmenorrhea and 18 had abdominal pains of an undetermined nature There were 13 patients with dyspareunia and 1 patient with essential pruritus vulvae A questionnaire was *sent to all* these patients during 1948, but useful answers were received from only 51 patients Considering all 51 patients on whom presacral neurectomy was performed, including 13 with undetermined abdominal pains, dyspareunia and essential pruritus vulvae, excellent results were obtained in 32 and good results in 13, with 6 therapeutic failures Thirty-eight of these 51 patients had submitted to presacral neurectomy, 21 for primary dysmenorrhea and 17 for secondary dysmenorrhea Fifteen of those with primary dysmenorrhea obtained complete relief and 4 partial relief, but 2 were therapeutic failures Thirteen of those with secondary dysmenorrhea obtained complete relief and 3 partial relief, but 1 was a therapeutic failure *Thus* excellent results were obtained in 28 of the 38 patients and good results in 7 patients, with 3 therapeutic failures The complete and permanent relief obtained in 73 7 per cent of the patients with dysmenorrhea is attributed to the fact that adnexal lesions always were corrected simultaneously In contrast to Ingerslev and Simpson and in agreement with Adson and Mason, the authors believe that presacral neurectomy is justified to a certain extent even in secondary dysmenorrhea Sympathectomy should always be combined with surgical intervention on the uterus and on the adnexa, provided that the condition of these organs requires it Fixed retroflexion of the uterus is a rare condition, as is isolated psychogenic dysmenorrhea

Presse Medicale, Paris

57 1025-1040 (Nov 5) 1949

*Variations of Sodium, Potassium and Magnesium in Blood During Diabetes Mellitus and Diabetic Acidosis R Boulin, Uhry, Nepveu and Cannivet —p 1025
*Chloromycetin Treatment of Boutonneuse Fever M Janbon, L Bertrand and C Combier —p 1026
Study of Four Epidemics of Salmonellosis, Prophylactic Deductions J Boyer and Tissier —p 1028

Variations of Sodium, Potassium and Magnesium in Blood of Diabetic Persons—Boulin and co-workers determined sodium and potassium levels in the blood and in the urine, and serum magnesium concentration in 154 diabetic patients The great majority *of these* patients did not have acidosis Some of them were treated with insulin and some were not There were 9 patients with mild acidoketosis and 8 patients with diabetic coma Patients with diabetes mellitus but without acidoketosis showed a lowered serum sodium and magnesium concentration and a drop of the potassium level in the blood The ratio of sodium *and potassium* excretion in the urine was normal The same changes in serum sodium concentration and potassium level in the blood were observed in diabetic patients with mild acidoketosis The serum sodium concentration may be restored to normal only slowly in spite of a therapeutic supply of sodium because of considerable dehydration of the patients A drop in the potassium level of total blood and serum occurred constantly between *the twelfth* and thirty-sixth hour during treatment for diabetic coma Spontaneous but slow return to normal occurred thereafter The hypokaliemia was not associated with respiratory difficulty or muscular asthenia and did not threaten the life of any of the patients Administration of potassium was *not required* The magnesium serum concentration did not seem to vary in the course of diabetic coma The sodium and potassium *levels* in *the urine* were lowered

Chloramphenicol in Boutonneuse Fever—Janbon and co-workers treated with chloramphenicol (chloromycetin®) *2* men and 2 *women* between the ages of 23 and 62 who had boutonneuse fever Four to 4 5 Gm of the antibiotic was administered as the initial dose, followed by *0 25 Gm* every three hours Treatment with chloramphenicol was instituted on the sixth day of the disease in 2 patients and on the eighth and seventh day in the 2 other patients Defervescence was noted shortly after the institution of treatment in the 4 patients whose temperatures returned to normal at the sixty-fifth seventy-eighth sixtieth and sixty-sixth hours after the administration of a total of 10 to 12 Gm of the drug in a four day course Convalescence was free of asthenia

Progres Médical, Paris

77 505-528 (Nov 24) 1949

Rubella During Pregnancy H Vignes —p 507
*Alpha Tocopherol (Vitamin E) in Prophylaxis of Fetal Erythroblastosis B S Ten Berge and F J J van Assen —p 511
Syphilis in Maternity Homes Its Treatment R Dubrovsky —p 515

Vitamin E in Prevention of Fetal Erythroblastosis —Ten Berge and van Assen treated 6 Rh-negative pregnant multiparous women whose husbands were Rh positive with 100 mg of alpha-tocopherol (vitamin E) per day Preceding the present pregnancy, the women had either given birth to premature children who died soon after birth or had miscarried a hydropic fetus Treatment with vitamin E was started in 3 of the women when they were three months pregnant, in 1 when she was four months pregnant and in 2 when they were six months pregnant The infants born of mothers who received vitamin E when they were three or four months pregnant up to near term were Rh-positive and survived 1 without exchange transfusions and 2 with exchange transfusions One of the women was started on vitamin E treatment at the end of the third month of her pregnancy but did not continue the treatment regularly, receiving only small doses of about 25 mg per day She miscarried a hydropic and macerated fetus One of the 2 women who was started on vitamin E therapy in the sixth month of her pregnancy delivered an Rh negative infant who died at the age of 12 days from septicemia The second of these 2 women delivered an Rh-positive infant who survived with an exchange transfusion but the placenta showed phenomena of mild fetal erythroblastosis The authors believe that fixation of antibodies and/or antigens results from vitamin E treatment and that the production of antigens by the placenta is diminished. The pregnancy thus may continue near term, and chances are better for exchange transfusions The prognosis for the infant seems to be definitely improved It is advisable to administer 100 mg of alpha-tocopherol to every pregnant, Rh-negative woman whose husband is Rh-positive and to start the treatment at the end of the third month of pregnancy

Revista Brasileira de Medicina, Rio de Janeiro

6 517-584 (Aug) 1949 Partial Index

Acute Ischemia of Limbs New Conceptions R Heim de Balsac —p 517

Acute Ischemia of Limbs —Heim de Balsac presents a theory on the cause of acute ischemia of the limbs based on observations of 9 patients and a review of the literature He failed to find a thrombus in the peripheral artery of the limbs of certain patients with obvious clinical syndrome of embolism In other patients a thrombus was present but was not the white migratory type. Circulation failed to reestablish itself after embolectomy in some cases despite the absence of another thrombus The removed clot is aseptic in 80 per cent of the cases and does not contain a thrombogenic substance The blood clot adheres to the arterial walls after ten hours whereas embolectomy gives good results in many cases in which it is performed twenty-four hours or fourteen days after the occurrence of embolism Results of embolectomy do not depend on how early the operation is done. The histologic lesions caused by the thrombus are infectious in character but the coagulum is aseptic in the cultures The effect of phlebotomy on reestablishing arterial pulsation is not explainable by modern theories of arterial embolism Arterial embolism in human beings follows a course different than that of embolism in experimental animals The author believes that acute ischemia of the limbs is due to a disturbance of arterial pulsation which results in disturbed trophism of the wall of the involved artery and a diminished secretion of heparin Heparin hyposecretion can be transient, with consequent transient arterial ischemia or permanent with consequent acute ischemia of the limbs

Wiener medizinische Wochenschrift, Vienna

99 503-526 (Nov 5) 1949 Partial Index

Effect of Urethane and Other Hypnotics on Central Nervous Regulation of Blood in Diseases of Blood R Klima and G Weingraf —p 503
Pathophysiology of Insomnia in Connection with Paradoxical Activity of Belladonna E. Frommel and I T Beck—p 507
*Nitrogen Mustard Therapy in Diseases of Blood and in Malignant Tumors H Fleischhacker and H Klug —p 509
Therapy of Hypertension by Alcohol Blockade of Sympathetic Nerve E P Klein —p 512

Nitrogen Mustard Therapy in Diseases of Blood and in Malignant Tumors —Fleischhacker and Klug believe that nitrogen mustard represents a valuable addition to the therapeutic armamentarium in the treatment of lymphogranuloma It is especially valuable in cases which have become refractory to roentgen treatment. It has the advantage over roentgen therapy in that it influences all of the diseased foci even the newest and smallest However the remission induced by nitrogen mustard is generally shorter than that induced by irradiation The authors obtained most favorable results by giving first a series of injections and after an interval of one to three weeks roentgen irradiation Nitrogen mustard proved effective in polycythemia rubra vera However, because of the danger of secondary toxic effects, the authors advise its employment only in cases in which other treatments have failed Some cases of bronchial carcinoma likewise responded to treatment with nitrogen mustard although the improvement was generally of short duration Favorable results were obtained in laryngeal carcinoma but other neoplasm responded occasionally only Recently treatment with nitrogen mustard was begun in mycosis fungoides and the effects have been quite satisfactory The authors recommend doses of 4 to 5 mg on three or four successive days The interval between the series of injections should be ten to fourteen days Small doses of nitrogen mustard stimulate the bone marrow and induce an increase in the leukocytes The authors administered 0 5 or 1 mg doses of a nitrogen mustard preparation on three successive days to patients with granulocytopenia or with panmyelopathy This reduced the treatment period in patients with panmyelopathy and in some cases it started the regenerative process With use of the customary large doses a short period of stimulation is usually followed by signs of bone marrow impairment in the form of a decided decrease in leukocytes and toxic impairment of the neutrophils For this reason the leukocyte count should be kept under constant control during and for a time after treatment with nitrogen mustard For treatment of the severe leukopenias resulting from nitrogen mustard therapy the authors recommend pyridoxine and folic acid therapy which may be combined with infusions of choline chloride and injection of small quantities of foreign blood When life is threatened blood transfusions and penicillin therapy are recommended

Sympathetic Nerve Block by Alcohol in Hypertension —Klein has resorted to the exclusion of the sympathetic nervous system by means of procaine hydrochloride and alcohol in 80 patients with hypertension He infiltrates the sympathetic nerve at the height of the fifth or sixth dorsal vertebra with a 1 per cent solution of procaine hydrochloride If a patient responds to this injection with decrease in blood pressure on the following day the author usually performs the sympathetic exclusion by means of alcohol injection He injects 2 cc of 96 per cent alcohol at the level of the fifth or sixth dorsal vertebra on both sides and in case of malignant hypertension also at the tenth dorsal vertebra, the root of the lesser splanchnic nerve The decrease in blood pressure may not be noticeable until the irritation due to alcohol has subsided which may require one or several days The blood pressure usually falls to a normal or nearly normal level and the secondary effects of hypertension subside This improvement usually persists nine months or longer The results were good in 76 per cent of the cases there was moderate improvement in 14 per cent and the results were negative in 10 per cent. The diuresis is usually increased nocturia decreases or disappears In decompensated hypertension there is a rapid improvement in the organs with stasis liver pain and lack of appetite decrease. Cerebral and stenocardiac symptoms as well as paresthesias subside Vision improves Contraindications to resection of the splanchnic nerve do not apply to the injection of alcohol

Book Notices

THE REVIEWS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES AND DO NOT REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED

Hemorrhage Disorders A Guide to Diagnosis and Treatment By Paul M Aggeler M D, Assistant Clinical Professor of Medicine, University of California Medical School and S P Lucia M D, Professor of Medicine University of California Medical School San Francisco Cloth $10 Pp 112 with illustrations by Phylura Gibbs Helene Cleare and Jean Thompson under the Supervision of Ralph Sweet University of Chicago Press 58th St and Ellis Ave Chicago 37, 1949

The subject of abnormal bleeding is presented in a concise clear, didactic manner Many illustrations, most of them in color and graphs and diagrams employ the principles of visual education to excellent advantage The type is large, varied in size and underlined for emphasis which facilitates reading and understanding

The book is based on the author s observations of over 500 patients with many hemorrhagic diseases An excellent summary of the physiology of hemostasis is followed by a brief but clear section describing the technical details of all tests the authors used to diagnose these disorders One might question whether the technic for prothrombin determination is the best available, and it is doubtful that the suction method for testing capillary fragility is as sound as the positive pressure method with the use of a blood pressure cuff However, it is probably sound to present this material in terms of one method when there are several that are reasonably satisfactory or equally unsatisfactory

The third section consists of a discussion of twenty-nine hemorrhagic diseases indicating the basic hemostatic defects presenting charts showing the degree of variation of the results of the different diagnostic tests the clinical manifestations, the etiology and *the treatment* The fourth section on therapeutic agents and procedures is fairly complete covering the diseases the indications contraindications and efficacy of many different types of therapy It has particular value in that it presents many seldom used agents and tells why these are not recommended by the authors

This book will be especially appreciated by the student and the practitioner for the excellent and concise summary it presents It omits many details which are important to the specialist and it does not make any pretense of presenting many examples of varying points of view with regard to fundamental problems It is primarily a practical review book and brief guide rather than a volume on basic science The price is necessarily high The small, well selected bibliography will help the reader to obtain further information on specific subjects

Group Medicine and Health Insurance in Action By Robert E Rothenberg A B, M D Chairman, Medical Group Council, the Health Insurance Plan of Greater New York and Karl Pickard A B M D, Secretary, Central Medical Group of Brooklyn Assisted by Joel E Rothenberg A B J D, Attorney Medical Group Council Health Insurance Plan of Greater New York Introduction by George Baehr, M D, Cloth Price $5 Pp 278 with illustrations Crown Publishers 419 4th Ave, New York 16, 1949

This detailed and actual account of a medical group practicing under a prepayment medical care plan explains the organization, financing and operation of the group practice unit and shows the limitations as well as the benefits which accrue to physician and patient The authors are members of the Central Medical Group of Brooklyn, and their report covers the first two years of the group's experience as one of the components of the Health Insurance Plan of Greater New York As a component of the health insurance plan the Central Medical Group provides medical care, preventive as well as curative, for more than 20,000 persons under a system of voluntary prepaid health insurance

To physicians already in group practice and to physicians interested in joining or developing a group this book offers a wealth of valuable information Such subjects as legal aspects of group practice, medical personnel, administrative, auxiliary and clerical personnel, physical requirements for medical group quarters, utilization of services, reports of departments and a medical group as a business organization are discussed fully and well

The authors also offer "much food for thought' to readers interested in various approaches to voluntary health insurance Group practice is portrayed as the means by which voluntary prepayment plans can offer comprehensive coverage at a reasonable cost In fact, it might conceivably be said that the authors have directed their efforts to prove that this is true

The patient-physician relationship under group practice is given practical consideration and is amplified with experiences from the daily problems encountered by the group, but the authors provide a new analysis of the term "In this era of specialists, scientific practice and group medicine, it is true that the old family doctor is replaced by the energetic and more impersonal internist, but a new kind of personal relationship takes its place The patient develops an allegiance toward a team of doctors who he knows are working together to care for all his ailments While this involves an evolution in the thinking of the patient, a new kind of transference toward the group comes into being among those who are members of a health plan

The chapter on relationships of the medical group to the community is somewhat misleading In discussing the opposition of county medical societies to the Health Insurance Plan of Greater New York the authors leave the impression that this opposition was directed toward group practice Actually the opposition was directed against specific aspects of the prepayment features and not the group practice of medicine

As a closing theme the authors go all out for a National Health and Hospital Insurance Program patterned after the experiences of the New York health insurance plan Details as to how such a plan might be started what it should include in the way of benefits, how it should be governed and what the cost would be are all outlined Even without this final gesture the book covers too much and the proposed national health program convinces one that "Group Medicine and Health Insurance in Action' contains a fund of worth while information on group practice but leaves much to be desired in its discussion of health insurance

Modern Practice in Ophthalmology 1949 Edited by H B Stallard M B E M A M D Surgeon Moorfields Hospital London Cloth $12 50 Pp 525 with 231 illustrations Paul B Hoeber Inc Medical Book Dept of Harper & Brothers 49 E 33rd St New York 16 [Butterworth & Co Ltd 4 6 Bell Yard Temple Bar London W C 2] 1949

Under the leadership of H B Stallard fourteen predominantly British ophthalmologists have prepared a textbook the purpose of which is "to give the general practitioner an outline of the modern practice of ophthalmology" The material is, in principle arranged according to the specific anatomic structures or regions of the visual organ The first four and the last two chapters of the book are devoted to more basic or general considerations of ophthalmology, such as anatomy and physiology, methods of examination and ocular therapeutics

In a chapter entitled Pathology, F Maxwell Lyons of the Memorial Ophthalmic Laboratory in Giza (Egypt) introduces the reader to the developmental anomalies and the abiotrophies of the human eye and describes the clinical rather than the pathologic manifestations of these conditions He then discusses ocular inflammation ocular injuries degenerations and neoplasms from the standpoint of the pathologist and closes with a brief description of the simple bacteriologic methods as used in ophthalmology An extraordinarily well organized chapter on medical ophthalmology by S P Meadows deals with the eye findings in neurologic and medical diseases The strictly clinical sections of the book are clearly indicative of the special knowledge and wide experience of the authors The section on refractive errors by Williamson-Noble is perhaps more detailed than one would expect to find it in a book for general practitioners The comprehensiveness of this chapter as well as of chapters on surgical procedures expresses the editor's desire to convey to the general practitioner a complete understanding of ophthalmologic procedures "so as to enable him to deal with questions that the patient or the patient's relatives may put to him" The individual chapters of the book are well coordinated Short bibliographies are appended at the end of each major chapter

Amply and expertly illustrated easily readable and eminently practical this book will undoubtedly accomplish its purpose of becoming the general practitioner's guide in ophthalmologic matters The book should prove equally useful to the medical student

Functional Localization in Relation to Frontal Lobotomy By John F Fulton O B E M D D Sc Being The William Withering Memorial Lectures Delivered at The Birmingham Medical School 1948 Cloth $3 Pp 140 with 53 illustrations Oxford University Press 114 5th Ave New York 11 Amen House Warwick Sq London E C 4 1949

This small monograph (140 pages) reviews and brings up to date the knowledge that has been obtained regarding the frontal lobes and the cerebellum The anatomy and physiology of these important parts of the brain revealed by experimental studies on lower mammals and the subhuman primates are compared and contrasted with what is known about the human being

The neurophysiologist is not yet able to explain just why frontal lobotomy relieves the psychoses and intractable pain when it does and why it does not when it is not successful Progress, however is being made, and it is hoped that ultimately "we may one day be able to bring mental experience and physiological experience into harmonious and meaningful juxtaposition"

The book is exceptionally well written, the print is excellent and the bibliography at the end of each chapter is good. There is an index which permits easy reference to any part of the book. This monograph should be essential reading for anyone interested in, or who is going to undertake physiologic experiments on, the frontal lobes or cerebellum or both It is a must for the lobotomist, the neurologist and the neurosurgeon but the psychiatrist also will find in it much helpful and stimulating information

Gynecologic Diagnosis By Robert Tauber M D F A.C S F I C S Associate in Gynecology and Obstetrics the Graduate School of Medicine University of Pennsylvania Philadelphia Cloth Price $6 Pp 275 with 80 illustrations Thomas Nelson & Sons 385 Madison Ave New York 17 Parkside Works Dalkeith Road Edinburgh 9 Scotland Toronto Canada 1949

Although this book is profusely illustrated, suitably arranged and set in good type on excellent paper, it could easily be condensed into a booklet of one third its size The first part of the book deals with diagnostic methods the second with the diagnostic clinic The foreword states that the problems offered in this book may serve as a helpful source of mental exercise ' It could perform this function for the student completing his course in physical diagnosis or his first series of lectures in gynecology The book is an elementary treatise. Typographic errors are frequent Lymphopathia venerea and lymphopathia venereum (pp 128 129) are used interchangeably instead of the preferred term, lymphogranuloma venereum There are several statements with which one might take issue such as the claim on page 59 that a vaginal discharge with a p_H 5½ to 6½ points to monilia The author suggests the use of mnemonic names for instance V Bach was designed to help in search for masculinizing symptoms The V here stands for Voice which is deepened, the B for Breast, which is frequently atrophic, the a for amenorrhea, the c for clitoris which may be considerably enlarged, and the h for hirsutism. The epitome of puerility is reached when the author suggests that the mnemonic term "McSteps," spelled backwards be used as a reminder of size, position, tenderness, shape, consistency and mobility This is reminiscent of a highly publicized nostrum spelled backward.

Physiologie medicale Par R Fabre professeur de physiologie Faculté de médecine de Bordeaux et G Rougier agrégé de physiologie Faculté de médecine de Bordeaux. Les précis pratiques Boards 2 500 francs Pp 1 118 with 206 illustrations Librairie Maloine S.A 27 Rue de l École de Médecine Paris 6e 1950

This is on the whole, an up to date textbook for medical students and doctors of medicine written by two competent physiologists, on the basic assumption that physiology is one of the fundamentals of modern medicine The book lacks cogent references to the literature Some excursions into and some acquaintance with basic research reports in this field seem necessary to illuminate by understanding the student's memory of facts

Intramural and Recreational Sports for Men and Women By Norma M Leavitt Ed. D Associate Professor of Health and Physical Education Illinois State Normal University Normal and Hartley D Price Ph.D Professor of Physical Education Florida State University Tallahassee Cloth. $3 Pp 323 with 39 illustration A S Barnes and Company 101 Fifth Avenue New York 3 1949

Intramurals are defined by the authors as the physical recreation activities sponsored by and carried on within an educational institution Included in consideration are both competitively organized and informally conducted activities Purposes of intramurals as an integral part of physical education, do not differ from those of general education In the organization of the program emphasis is placed on the welfare of the individual with the needs and interests of all students—the strong the average and the weak—given consideration The program must offer a broad variety of activities to provide a sport for every one and with sufficient appeal to attract 'everyone to a sport Education for use of present leisure time and development of resources for use of leisure in the future are cited as major goals Individual sports which have a carry-over into later life are emphasized but not to the exclusion of competitive games which have so much appeal for youth

Discussing the importance of leadership the authors suggest that, to furnish a program which will be impelling enough to stimulate wide participation among students there should be sufficient faculty direction to assure smooth functioning but never so much as to result in a stultified stereotyped program The students themselves should assume a large portion of the responsibility for organization and direction of the program with the role of intelligent faculty leadership only that of appropriate guidance

The organization and conduction of the program are well covered with consideration of scheduling curriculum club activities finances rules and regulations, health safeguards reports awards and problems of administration To be noted is the amount of repetition found from one part of the book to another However since many readers will refer to only certain problems in the field, or parts of the text, this may not be a serious fault The book is intended primarily as a textbook for teacher education and a guide for teachers and leaders of intramural sports at the college level with some application for secondary schools It will also be useful as a source book for physicians serving in college health services on school boards or in other group concerned with recreational sports

Lehrbuch der Chirurgie. Band I Herausgegeben von A Brunner et al Unter Mitarbeit von F Becker et al Cloth Price 74 Swiss francs Pp 912 with 259 illustrations Benno Schwabe Klosterberg 27 Basel 10 Imported by Grune & Stratton Inc 381 4th Ave New York 16 1949

This is the first volume of a Textbook of Surgery and apparently will be followed by a second volume which will complete the work The authors all are Swiss and the book is written in German After the preface there is a section on the history of surgery, which is commendable in view of the obliviousness on the part of the vast majority of students and practitioners of the great traditions of their profession

A detailed review of classic textbook material is difficult and of necessity can be only repetitious The subjects are traumatic injuries including fractures and dislocations healing and regeneration the surgery of infections thermal and electric injuries the surgery of ecchinococcus infections, hemorrhage hemostasis and blood transfusion thrombosis, thrombophlebitis and embolism, traumatic shock water electrolyte and protein metabolism antisepsis and aseptic technic in surgery the control of pain surgical diagnosis general consideration of indications for surgical operations neoplasms the surgery of cutaneous and subcutaneous tissues vascular surgery surgery of the locomotor system general considerations on the diagnosis and treatment of cerebral lesions clinical neurosurgery the endocrine glands war surgery fundamentals of plastic surgery, surgical medication, and physical therapy in surgery

In this the first volume the general principles of surgery receive more detailed consideration than special phases with certain exceptions such as neurosurgery For example the surgery of trauma is dealt with extensively but the discussion of neoplasms *is relatively brief and confined to generalities* For obvious reasons textbooks cannot be expected to include the latest material appearing in the current literature However this book includes much of the most recent advances in practically all fields dealt with, and this merits special commendation

The volume is attractive, being printed on good quality paper and in large, easily read type It is profusely illustrated by original instructive diagrams, charts and photographs This textbook well deserves a place in any medical library and is to be recommended for those who read German as a truly modern work in the field of general surgery

Outlines of Internal Medicine (Including Clinical Chemistry and Microscopy) Edited by C J Watson M D Head Department of Medicine University of Minnesota Minneapolis Sixth edition Cloth $12 Pp 131 94 with illustrations Wm C Brown Company 915 Main St Dubuque Iowa, 1949

Watson who speaks for an excellent group of contributors, did not intend the volume to be a medical textbook In form it resembles a permanent and desired volume of 506 pages rather than a student's syllabus—which in fact it is Nonetheless, it cannot be offered to the general medical public unless a somewhat limited purpose is contemplated It was intended for third year teaching, and in the University of Minnesota it no doubt is a useful item in a good system of pedagogy The book was circulated among junior teachers who did not think in their situation that it would be useful Teaching schemes are variable and are determined by the habits and tastes of the preclinical teachers To illustrate the point, the chapters on infectious diseases are written by a professor of medicine who is also an excellent bacteriologist He includes in his chapter for third year students material that in other places is well taught in the second year and hence not needed again in such detail

There is often a dogmatism in details of treatment that would confuse the third year student if he read elsewhere but it is a good book for a particular hospital service

The book can be recommended highly to medical graduates who hope to find a refresher couse Part V, which is exclusively clinical chemistry and microscopy, certainly can be so recommended The book lacks an index

Normal Values in Clinical Medicine By F William Sunderman M D, Ph D Professor of Experimental Medicine and Clinical Pathology University of Texas Postgraduate School of Medicine Galveston and Frederick Boerner V M D Cloth $14 Pp 845 with 237 illustrations W B Saunders Company 218 W Washington Sq Philadelphia 5 7 Grape St Shaftesbury Ave London W C 2 1949

This is a remarkably complete compendium of data relating to diagnostic and therapeutic methods employed in medicine and its various specialties The authors have brought together in one volume a vast number of facts and figures of importance to clinicians The book is hardly one to be read in its entirety It will be found most valuable as a reference volume for medical students and practitioners alike Laboratory methods have become so important in modern medicine and the volume of data relating to laboratory tests has become so large that a reference book of this kind is greatly needed Nowhere is so much factual information regarding the laboratory aspects of medicine brought together under one cover as in this new and valuable monograph The authors are to be congratulated for having completed the tremendous task involved in compiling such an encyclopedic work

Surgical Management of Vascular Diseases By Gerald H Pratt M D F A C S, Associate Clinical Professor of Surgery, New York University Cloth Price $10 Pp 496 with 181 illustrations Lea & Febiger 600 S Washington Sq, Philadelphia 6, 1949

In simple language the author has given a thorough and modern review which should be a great aid to those encountering peripheral vascular disorders in the general practice of medicine or surgery The book also should afford interesting and instructive reading to those specializing in this field The carefully outlined and well illustrated material covers the etiology, diagnosis, nonoperative and operative treatments of arterial, venous and lymphatic disorders affecting extremities Also discussed are similar disorders of the head, neck and trunk with reference to new developments in surgery of the heart Probably the best portions of the book are those relating to diagnosis and treatment, though discussions of surgical method are presented in sufficient detail to inform the reader of the variety of surgical technics available Study of the text will give valuable information to physicians because the problems discussed are those which are encountered most frequently and the recommendations are practical and sound

Notions pratiques d'électro cardiographie Par P Bardlin et G Mayon ade Préface du professeur E Donzelot Paper Pp 189 with 74 illustrations L'Expansion Scientifique Française 23 rue du Cherche Midi Paris 6e, 1949

In this small volume an attempt is made to cover the elements of electrocardiographic interpretation, their contribution to the differential diagnosis of clinical heart disease and their value in therapy The technic of multiple chest leads and aV limb leads described extensively in the initial chapters finds little application in the description of abnormal patterns Arrhythmias are dealt with under the anomalies of the P-R interval and of the QRS complex as well as in a special chapter However, this unnecessary repetition does not contribute to a better understanding of the subject The statement that the period of unresponsiveness of the heart extends throughout the whole of diastole (bottom of page 1) needs correction In view of the practical purpose of the book, the effect of digitalis on the contour of the electrocardiogram should merit more stress and it should be emphasized more than typhoid in the genesis of arrhythmias The authors, contrary to general practice, hesitate to recommend the use of quinidine for the treatment of ectopic rhythms, and even for ventricular tachycardia it is recommended only as a last resort The most interesting part of the book is the final chapter on vectorcardiography and the illustrations obtained by "vectorial electrocardiography " Unfortunately, this chapter is too short and condensed to be understood by the beginning student of electrocardiography for whom the book apparently has been written

Undersøgelser over Respirationscentrets følsomhed ved melankoli By Torsten Østergaard [Studies on Sensitivity of Respiratory Center in Melancholia] Denne afhandling er af det lægevidenskabelige Fakultet antaget til offentlig at forsvares for den medicinske Doktorgrad København 1948 Paper Pp 168 with 137 illustrations Rosenkilde & Bagger Copenhagen, 1948

The author reviews previous reports on the responsiveness of the respiratory center to various stimuli in mental disease, especially melancholia, and then gives the results of original studies on 36 patients with melancholia The biochemical procedures are described in detail, and the results are summarized in the concluding three pages The responses of melancholic patients to carbon dioxide inhalations were measurably reduced below normal waking figures, similar refractoriness was found in normal subjects sleeping naturally or under the influence of hypnotics The author concludes that the diminished responsiveness of the respiratory center is a usual accompaniment but not an essential feature of melancholia

Die Elektrochirurgische Behandlung der Tuberkulose Von Heinrich Brügger Tuberkulose Bücherei Monographien zur Monatsschrift Der Tuberkulosearzt' herausgegeben von Dr Rolf Griesbach und Dr Otto Wiese Paper Price $3 25 Pp 76, with 99 illustrations (Grune & Stratton Inc 381 4th Ave New York 16) Georg Thieme Diemershaldenstrasse 47, Stuttgart-O, 1949

This is a carefully prepared treatise on the use of diathermy in the surgical treatment of tuberculous sinuses It is excellently documented and illustrated, and many cases of sinuses in various parts of the body are described in detail The author stresses the importance of using a particular strength of coagulating current which will heat the tissues without producing an eschar He has not sufficiently stressed the fact that practically all such tuberculous sinuses are caused by some underlying pathologic condition which must be cleared up before the sinuses will heal permanently

The Mental and Physical Effects of Pain By V C Medvei M D, M R C P Associate Chief Assistant, Endocrine Clinic St Bartholomew's Hospital, London Buckston Browne Prize Essay, Harveian Society of London 1948 Paper $1 Pp 59 [Williams & Wilkins Co, Mt Royal and Guilford Aves, Baltimore 2] E & S Livingstone Ltd, 16 and 17 Teviot Place, Edinburgh 1, 1949

This little booklet presents a competent review of this complex and important problem Pain is a universal human (and probably all animal) experience A more complete understanding of its causes and consequences is of great importance both for the doctor and the patient

Queries and Minor Notes

The answers here published have been prepared by competent authorities They do not however represent the opinions of any official bodies unless specifically stated in the reply Anonymous communications and queries on postal cards will not be noticed Every letter must contain the writer s name and address but these will be omitted on request

TREATMENT OF DOG BITES

To the Editor —There is a difference of opinion in my section about the *treatment of dog bites* One group *still advocates* the use of *fuming* nitric acid cautery to the fresh wounds on any part of the body This same group holds that bites on the neck up should be treated immediately with rabies vaccine but bites on any other area of the body can await the seven day report from the Board of Health dog kennel and treatment given accordingly The second group objects to the use of fuming nitric acid first, because of the unnecessary scarring resulting from this treatment and, second because they believe that this treatment sears in the virus and is extremely painful Please outline the accepted method of treatment for dog bites of the face and other parts of the body with *reference to medicolegal aspects*

Alfred J D Alessandro M D , Brooklyn

Answer.—Briefly, the treatment is like that of any similar surgical condition Cleanse the traumatized area with medicinal soft soap and water, using sterile gauze Do not scrub with a brush Wash off excess soap with sterile water and apply hydrogen peroxide Wash again with water and follow with 95 per cent alcohol Apply a wet dressing of boric acid if the wound is badly lacerated If treatment of the injury has been delayed and there is evidence of dirt in the wound it is sometimes advisable to give a prophylactic injection of tetanus antitoxin.

The use of fuming nitric acid, long recommended for dog bites is slowly going out of use. If there is any suspicion that a rabid animal was responsible for the bite, antirabies vaccine injections should be started at once

Incubative periods for rabies are likely to be brief when the bite of the rabid animal is above the shoulder line of the subject attacked It is for that reason that any delay in instituting antirabic treatment is often considered hazardous Local treatment is the same regardless of the site of injury Fuming nitric acid or other forms of cautery should not be used In recent years human immune serum has been recommended (Scull, A J Rabies—A Community Problem in Texas, *Texas State J Med* 45 343 [June] 1949)

COLOR BLINDNESS

To the Editor —What is considered the most accurate method for the determination of color blindness?

Frank E Wilson M D New London Conn

Answer.—The term color blindness should seldom be used, as this condition is hardly ever encountered In contrast the term defective color vision describes about 8 per cent of the male and almost 0 5 per cent of the female population Color blindness can be diagnosed only by complicated tests including spectroscopy and color-mixing apparatus Defective color vision can be diagnosed by many simple tests, but to classify the type and estimate the extent of the defect require usually several tests, including the use of some form of anomaloscope.

Of the simple tests, which should be called screening tests (to separate subjects with defective color vision from those with normal color vision), the polychromatic plates of Ishihara Stilling and Rabkin are the best known, but even these have serious drawbacks and cannot be used effectively without careful precautions regarding mode of administration and illumination (*Arch Ophth* 34 278 282 and 295-302 [Oct] 1945 35 109 119 [Feb] 1946, 35 251-270 [March] 1946 36 685-699 [Dec] 1946 and 38 442-449 [Oct.] 1947)

Of the simple screening tests available at present the revised edition of the American Optical Company's plates properly employed (*Arch Ophth* 38 442-449 [Oct.] 1947) would probably be the most satisfactory for use in an oculist s office Dubious cases should be checked with a Nagel anomaloscope

Newer tests such as the Trendelenburg dot test and the Hardy, Rand & Rittler plates are in the process of production and verification These tests are claimed to screen classify and indicate extent of defective color vision

There are many color discrimination and color aptitude tests designed to determine a subject s abilities in special circumstances or for special purposes

PATCHY TYPE OF ALOPECIA

To the Editor —A woman aged 28 started to lose her hair in January 1949 soon bald spots simulating alopecia areata appeared varying in size from a dime to a silver dollar In about eight weeks hair began to appear in the bald spots but *new bald spots continue to develop* which seem to be limited to areas where old hair still persists Each bald spot is preceded by a pink spot at which time the hair falls out and a white bald spot appears The patient has about 50 per cent new hair varying from ¼ to 3 inches (0 64 to 7 62 cm) in length Physical examination basal metabolic rate blood count sedimentation rate temperature chart serodiagnosis and results of urinalysis are all normal What is the diagnosis? *Will all the old hair fall out and if so how soon? Will it all be replaced by new hair?*

M D New Jersey

Answer.—When a patchy type of alopecia occurs in an adult the diagnosis of alopecia areata should be considered especially if the areas are completely bald are not visibly inflamed and are not scarred Other conditions such as lupus erythematosus folliculitis decalvans, gummatous syphilis and the more rare favus, pseudopelade and trichotillomania also produce patches of baldness, but in these conditions there usually are inflammatory changes or scars in the areas Patchy ringworm of the scalp is a disease of children The course of alopecia areata is unpredictable Most patients recover spontaneously with regrowth of hair but in some total alopecia later develops In many instances there seems to be a link with emotional disturbances

Local treatment that is designed to produce hyperemia is favored by many physicians This may be accomplished by vigorous massage by ultraviolet rays or by the application of an ointment containing either histamine or 10 per cent ammoniated mercury

VASOSPASM OF CORTICAL VESSELS

To the Editor —A woman aged 76 has shown the clinical signs and symptoms of a cerebral hemorrhage There is urinary and intestinal incontinence and flaccid paralysis of the right arm and leg though a small *degree of muscle power in the leg is returning* She cannot support herself in the upright position One problem is restlessness and sleeplessness To overcome the latter pentobarbital sodium (nembutal sodium®) was used in doses of 1½ grains (0 1 Gm) and diphenylhydantoin sodium (dilantin sodium®) was tried The patient s daughter claims that under the influence of the latter drug and to a minor degree under that of the former also, the patient got out of bed and walked about 15 feet (3 meters) *Can such a claim be supported on some physiologic basis?*

R J Kent M D Savannah N Y

Answer —A patient aged 76 with evidence of paralysis on the basis of a cerebral lesion probably is affected through some dysfunction of the arterial circulation If cerebral hemorrhage took place some permanent loss of function will probably result On the other hand in areas surrounding the hemorrhage there may have been secondary vascular spasms causing paralysis of a temporary nature It is reasonable to speculate in regard to the effect on the paralysis of a drug such as diphenylhydantoin sodium Presumably vascular spasm could be overcome and neural function again be possible thus accounting for the fact that the patient under the influence of this medicament could use her paralyzed leg in walking

A second consideration must be taken into account could the patient have a functional paralysis on a psychogenic basis The history reported in the query fails to reveal the emotional status or psychiatric background of the patient on which to build such an assumption The restoration of voluntary power could have been based on the removal of a functional overlay of a structural condition in this case a cerebral hemorrhage Hysteria is uncommon in older patients and without previous episodes of a functional nature almost unknown Both theoretic explanations are based on certain assumptions which cannot be proved experimentally However the evidence would suggest that the mechanism concerned in this case was one of dilatation by the use of a drug of the cortical vessels which previously had been in vasospasm

IMMUNITY AGAINST DIPHTHERIA

To the Editor —How could toxoid injections create immunity against diphtheria when an attack of diphtheria itself does not leave any lasting immunity?

Alfred R Ross M D Brooklyn

Answer.—That toxoid injections create immunity against diphtheria has been amply substantiated by innumerable statistics Moreover even without stimulating doses of toxoid following the original injections active immunity endures for about five years in more than 85 per cent of those inoculated It is true that an attack of diphtheria may confer immunity only for a limited time *nevertheless authentic second attacks of* diphtheria are rare

SEPARATION OF RIBS AT STERNAL JUNCTION

To the Editor—Please give information concerning the diagnosis, treatment and *prognosis of separation of the costosternal junction* of the ribs following trauma to the *anterior chest wall Is it possible to demonstrate* this roentgenologically, especially *in elderly* persons with enlarged cardiac and aortic shadows?

M D, Tennessee

Answer—The diagnosis of separation of the ribs at the sternal junction is a clinical observation dependent on the presence of localized tenderness to pressure and of pain with thoracic respiratory movement and with coughing Treatment is directed primarily to relief of pain with immobilization of thoracic respiration analgesic medication and local injection of procaine hydrochloride The prognosis is excellent, though pain is often prolonged beyond that found in fracture of the rib itself It is virtually impossible to demonstrate radiographically, separation of the ribs at the sternal junction because of the radiolucency of cartilage and because of the presence of superimposed structures on the film

FLASH BURNS IN ARC WELDERS

To the Editor—On several occasions I have found that the instillation of 1 per cent phenacaine hydrochloride (holocaine hydrochloride®) solution into the conjunctival sac gives complete, prompt and permanent relief in cases of flash burns—(exposure to ultraviolet radiation from welding arc) *Are there any contraindications to this treatment?*

George B Ewing, *M D*, LaFargeville, N Y

Answer—Phenacaine hydrochloride in solutions up to 1 per cent is one of the preferred agents for instillation in flash burns among arc welders It has no curative value but serves as an anesthetic On occasion this local anesthetic provokes allergic responses, but not so frequently as does butacaine sulfate (butyn sulfate®) Allergic responses *may* be of *no great significance* and only call for withdrawal of the preparation from further use for the particular patient The *only* known incompatibility is with alkali *solutions in the presence* of which *phenacaine* hydrochloride is precipitated In any eye condition phenacaine hydrochloride should not be utilized simultaneously with alkali *solutions*

ROENTGEN RADIATION IN TREATMENT OF BREAST CANCER

To the Editor—What is the consensus concerning postoperative irradiation after removal of a ductal scirrhous adenocarcinoma of the breast with no evidence of metastasis? *The tumor was small The patient is an unmarried nurse aged 40*

R N Long, M D, Selma, Ala

Answer—There are two schools of thought relative to the postoperative use of roentgen rays in the treatment of carcinoma of the breast If there has been a careful dissection of gland-bearing areas and thorough examination has failed to reveal any extension of the disease, irradiation would not seem to be indicated However, because of the possibility of residual *malignant* cells remaining in the surrounding areas, irradiation might be of benefit in destroying these cells, if properly administered it *should not* cause bad effects At the present time the *employment of irradiation in* such a case would depend on the choice of the attending surgeon

CORNEAL OPACITIES

To the Editor—Much was heard about epidemic keratoconjunctivitis in shipyards during the war I have found little in the literature, however, concerning treatment of the opacities which result from the disease I have used ethyl morphine hydrochloride but with discouraging results I would like to know the prognosis of the corneal opacities

Roy M Whiteman, *M D*, Manhattan, Kan

Answer—Corneal opacities from epidemic keratoconjunctivitis undoubtedly have the same recalcitrant history as all other opacities, although few have been reported Their position in the pupillary area and their depth determine the amount of visual disturbance Neither ethyl morphine hydrochloride nor any other medicament has much effect on an opacity

CHLORAMPHENICOL INEFFECTIVE IN TYPHOID CARRIERS

To the Editor—I am interested in the effect of chloramphenicol (chloromycetin®) on typhoid carriers Robert H Israel, *M D*, Warren, Pa

Answer—The effect of chloramphenicol on typhoid carriers has been carefully tested, and it has been found to be ineffective in this condition As far as is *known* there is no antibiotic or sulfonamide which will consistently eliminate the typhoid carrier state

DECALCIFIED TEETH

To the Editor—A young *patient whose teeth are whiter near the gingival margin has been told by her dentist that her teeth are becoming decalcified and should be treated with silver nitrate Is this an acceptable procedure and is any benefit likely to result?*

M D, Wisconsin

Answer—Cervical decalcifications are not uncommon in young patients Treatment with silver nitrate does not assure the arrest of the *process* In any case, treatment with silver nitrate should be confined to the posterior teeth only, since a heavy black precipitate of silver is formed on the decalcified area For the anterior teeth, painstaking oral hygiene by the patient plus careful smoothing and polishing of the decalcified areas by the dentist is indicated If the decalcification has penetrated to the dentin, fillings should be placed

EFFECT OF THIOCYANATE ON THE THYROID

To the Editor—It has been shown that thiocyanate sometimes causes enlargement of the thyroid gland I would like to know whether there are cases *on record in which the chief complaint is pain in the thyroid area* and *in which examination reveals a tender, firm, enlarged thyroid* after prolonged use of thiocyanate

John D German, *M D*, Clintonville, Wis

Answer—Thiocyanate ion acts similarly to the iodide ion on the aggregation of colloids However, thiocyanate, in contrast to iodide, does not inhibit thyroid hyperplasia but may provoke it Foulger and Rose (J A M A 122 1072 [Aug 14] 1943) reported that, after prolonged administration of thiocyanate to human beings, there is a lowered basal metabolic rate and perceptible enlargement of the thyroid Similar effects have been reported by Rawson, Hertz and Means (*Ann Int Med* 19 829 1943) Apparently, thiocyanate acts as weak antithyroid drug, perhaps similarly to thiouracil and the sulfonamides

HARD SHELLED CRABS

To the Editor—It is a popular belief among people who eat hard-shelled crabs that the "feather" or "devil" is poisonous On what scientific background does this belief exist?

M D, Maryland

Answer—Poisoning of a paralytic nature from eating various shellfish at certain seasons of the year has been reported from various parts of the world The source of the seasonal toxicity in various species of mussels, clams and sea scallops are certain minute forms of marine life, such as the planktonic protozoan Gonyaulax cutanella, on which shellfish feed The anatomic site for *concentration of the poison* varies with the species of shellfish concerned Information cannot be found that would indicate that hard-shelled crabs are poisonous, and the nature of their diet would seem to support this point

ERRORS OF REFRACTION IN INFANTS

To the Editor—Are references available for refraction and errors of refraction in infants?

Raymond C Cook, *M D*, Little Rock, Ark

Answer—Literature on the refraction of infants is scant Practically all infants are born with hyperopia, and this does not cause trouble, as a rule, unless a cross-eyed condition is associated with it, then the use of glasses to correct all or part of the hyperopia, found alone or in connection with hyperopic astigmatism, will in many cases keep the eyes straight or more nearly so Every well trained ophthalmologist has had experience with this combination of conditions, because four fifths of all children brought to him before they are 6 years old have this combination of conditions

DIRECTIONAL GLASS BLOCKS NOT HARMFUL TO EYES

To the Editor—I have been approached by a member of a School Building Committee with the following question "Would directional glass blocks be harmful to children's eyes, especially children with astigmatism?"

Robert A Northrop, *M D*, Norwalk, Conn

Answer—Directional glass blocks would not be harmful Acceptable evidence is lacking that too much light in class rooms and theaters damages vision, causes changes in *refraction* or produces other permanent defects, although the belief that such things occur is widespread Of course, looking at a naked arc lamp, a welders arc or an eclipse of the sun without protective glasses will produce actual atrophy of the affected portion of the retina But glass blocks pass only diffused light and should not cause trouble, regardless of the refractive state of the eye

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RESPONSIBILITY OF A PROFESSION FOR THE PROMOTION OF EDUCATIONAL STANDARDS

H. G. WEISKOTTEN, M.D.
Syracuse, N. Y.

The interest shown in this conference and the active participation in its programs over the years by representatives of medical education, general education, government agencies, state licensing boards, hospitals, foundations, special societies, the specialty boards and others interested in medical education are symbolic of the efforts of the Council to foster and, when possible, integrate the activities of all groups concerned with the improvement and development of medical education.

With the full recognition that the quality of medical education is a basic factor in determining the quality of medical practice, all phases of the education of the physician have been subjected to increasing study.

It is impossible to designate a specific moment in a physician's career as the beginning of his preparation for the practice of medicine. It can fairly be said, however, that medical education begins formally when the prospective physician enters college to prepare himself for admission to medical school and ends only when he dies or permanently retires.

The organizations that have become active in promoting and establishing standards for medical training have greatly increased in recent years. As a result many questions have been raised concerning the relationships of these organizations to each other and to the total structure of medical education. Indeed, in the field of higher education as a whole challenging questions are being asked with respect to the multiplication of organizations that have undertaken to approve or accredit various courses of study in an effort to promote higher educational standards. In answer to these questions various proposals have been advanced, including suggestions that, on the one hand, all accreditation of educational institutions be abolished and that individual institutions alone be entrusted with accrediting themselves or, on the other hand, all accrediting activities be centralized under the supervision and control of a supreme agency set up to accredit accrediting agencies.

Since the Council on Medical Education and Hospitals was probably the first effective national accrediting body in the realm of higher education in the United States, it is responsible to the extent that it set an example for the development of accrediting agencies as important instruments in improving the quality of education in this country. For this and other reasons the Council has a natural interest in the discussions that are taking place today concerning accreditation both in medicine and in higher education in general. The Council felt, therefore, that it would be appropriate if the chairman's address at this Congress were devoted to a discussion of the responsibility of a profession for promoting educational standards and to a review and a restatement of certain fundamental policies that have guided the Council on Medical Education and Hospitals in its efforts on behalf of the medical profession to improve the quality of medical education.

Let us first consider the fundamental question: What responsibility does a profession have for establishing standards for the preparation of those who seek to join its ranks? Dean Pound has succinctly defined a profession as "an organized calling in which men pursue a learned art and are united in the pursuit of it as a public service—no less a public service because they make a livelihood thereby." It is implicit in the spirit and tradition of professions that their primary responsibility is to improve and advance the quality of the service that their members render individually and collectively to the public.

In medicine, as in all other professions, the quality of the performance of its members is governed more by the quality of their professional training than by any other single factor. The medical profession would therefore clearly be failing to meet one of its primary responsibilities if it did not seek to maintain an effective program for promoting high educational standards in all phases of medical education. Fortunately for its own honor and for the public interest, the medical profession has recognized this responsibility. It is well known that the American Medical Association was established primarily for the purpose of elevating the standards of medical education in this country.

In view of the federal government's lack of authority to establish regulations controlling either medical education or medical practice in this country, the organized medical profession was the only group that was in a position to take the leadership in establishing national standards for the guidance of the local units of government in whom the authority to regulate medical education and medical practice have been vested. Here is a historical fact of great importance to an understanding of why voluntary agencies in this country have been forced to assume the major responsibility for establishing educational standards as opposed to the situation in almost all other countries of the world where the

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Chairman, Council on Medical Education and Hospitals, American Medical Association.

Read before the Forty-Sixth Annual Congress on Medical Education and Licensure, Chicago, Feb. 6, 1950.

control of education and hence the responsibility for setting and maintaining standards, is in the hands of the central government

As evidence of its determination to improve medical education it may be pointed out that the profession has spent between three and four million dollars in supporting the work of the Council during the past forty-five years Currently, the profession is providing approximately a quarter of a million dollars annually for the support of activities in the field of undergraduate and graduate medical education

It should be pointed out that the Council on Medical Education and Hospitals has no legal powers Its effectiveness has depended not only on the support that it has received from the profession but also on the confidence in its findings on the part of government bodies the better schools and the public at large This confidence was early established because of the fairness of the Council's studies and the objectivity and disinterestedness of its approach

The examples set by certain American universities in establishing superior medical schools antedated the work of the Council In all instances such concrete demonstrations of advances in medical education have been a source of inspiration and guidance to the Council and have given support to the Council's insistence that the standards of medical education could and should be elevated

It should also be pointed out that as medical education has become stabilized under the supervision of universities and other responsible groups the Council has recognized the desirability and importance of eliminating rigid stipulations from its requirements By periodically restating its standards of an acceptable medical school in increasingly broad and general terms the Council has sought to encourage institutional responsibility in the maintenance and further development of educational programs of high quality, with each medical college having a maximum of freedom in experimenting with its program A realistic appraisal of the past and present status of medical education in this country however makes it clear that university sponsorship alone is not a sufficient guarantee to the public that the quality of professional training that an institution offers is satisfactory In many of our states the legal requirements imposed on groups desiring to organize and maintain universities or professional schools are not of such a nature that the possession of a proper legal charter by an institution is sufficient evidence that an adequate educational program will be offered Past history has shown that occasionally even established universities that have developed satisfactory programs in other fields of learning have permitted their medical school to operate below acceptable standards Thus while individual universities have and will continue to pioneer in the development of outstanding programs of medical education and while the day may come when university sponsorship alone will be sufficient to guide the public in judging the quality of medical schools, a real need still exists in this country and will exist well into the future for accreditation Furthermore, the agency responsible for this accreditation should be in such a position that there can be no question of its being influenced in its decisions by the attitudes of the medical colleges or their parent universities to each other

It is not my purpose this morning to seek undue credit for the medical profession Historically the record is clear that the general improvement in medical education that has taken place in the United States during the last forty-five years resulted primarily from the leadership provided by the medical profession This fact was well stated in the presidential address delivered at the recent meeting of the Association of American Medical Colleges, in which it was pointed out that the initiation of reforms and the elevation of standards of medical education was the work of "an independent body of the profession possessed of energy, foresight and zeal for the public good "

In this country we are fortunate in having a community of agencies working for the improvement of medical education The Council recognizes and has always recognized that to fulfill its responsibilities for promoting high standards of medical education it must work in the closest cooperation with all groups that have similar interests To integrate whenever possible, the activities of these groups, without trespassing on their independence, should be and has been one of the principal functions of the Council The role of the Council in its relation to other agencies was clearly expressed by Arthur Dean Bevan in his chairman's address before the first of these annual conferences in 1905 Referring to the first meeting of the Council which had been held a few months earlier, Dr Bevan said, "The conclusion was reached that the most effective work could be done by this Council not independently but by cooperating with the other agencies which were interested in and working for the elevation of standards of medical education As a result, this conference was called with the hope that it might be productive of good and that it might lead to a permanent national conference on medical education with regular annual meetings '

Dr Bevan went on to point out that there were many agencies interested in medical education represented at the conference including the medical profession, the medical schools represented by committees of the Association of American Medical Colleges the state licensing boards, the medical corps of the army the Public Health Service and teachers in colleges of liberal arts

At the conclusion of his address Dr Bevan said "It is not the purpose of the Council on Medical Education of the American Medical Association to arrogate to itself any special powers nor does it desire either to criticise or interfere in any way with any of the agencies which are already in the field If its creation is to result in good it must be the means of obtaining cooperation between the medical profession, the medical schools the colleges of arts, the state examining boards the government services and all groups which are interested in elevating and regulating medical education "

In 1928 in his last address before this Congress Dr Bevan summarized the accomplishments of the intervening twenty-three years in a paper fittingly titled "Cooperation in Medical Education and Medical Service " Stressing the continuing need for cooperation Dr Bevan stated "The fight for higher standards of medical education has been won It has been won by the united efforts of the American Medical Association, the Federation of State Medical Boards, the Association of American Medical Colleges, the American universities and colleges, the great educational foundations, the Carnegie Foundation for the Advancement of Teaching, the Rockefeller Foundation and the General Education Board. This great educational advance, the greatest that has occurred in any field of education in the last twenty-five years, is a wonderful example of what can be accomplished by the right sort of cooperation of the forces vitally involved in a great problem, but there remains much to be accomplished and this must be accomplished by securing the same sort of cooperation in the future development of medical education."

The philosophy of cooperation expressed so clearly by Dr. Bevan has continued to be the guiding philosophy of the Council in its efforts to promote the cause of medical education. Many illustrations may be cited of cooperative efforts in which the Council has engaged and which have brought it into close and profitable relationships with other groups.

Few actions taken by the Council have been more effective in improving the quality of medical education than was the elevation of the requirements for premedical education at a time when many medical schools were not even demanding a complete high school course of their candidates for admission. In preparing these standards, the Council did not attempt to settle the question by itself but called in a group of specialists in collegiate education and constituted their recommendations as the standards for premedical education. These standards are now being reviewed again by a group of general educators as part of the Survey of Medical Education jointly sponsored by the Council and the Association of American Medical Colleges.

In 1913 the Council sponsored the organization of the Federation of State Medical Boards of the United States and has worked in intimate cooperation with that organization ever since, to the great benefit of medical education and the public welfare. Without the splendid support of the state licensing boards in refusing to recognize medical schools judged by the Council to be inferior, the effort to improve medical education would have been seriously handicapped if not entirely nullified. Many problems involving the relationships of medical education to medical licensure remain to be solved, and continuing cooperation is as important today as at any time in the history of the Council and the Federation. The Council is looking forward to continuing its cooperative relationships with the Federation.

From its beginning the Council has enjoyed the closest kind of cooperation with the Association of American Medical Colleges, although both organizations have properly remained free to act independently.

When the first tour of inspections of the medical schools was initiated in 1906 by the Council, officers and members of the College Association were invited to participate. In turn, the Council, from the start of its work, received fine cooperation from the College Association. When the Council prepared its first classification of medical schools and it was found that several schools in membership in the College Association were rated as unacceptable, the College Association dropped these schools from membership.

Throughout the years a close working arrangement between these two groups has continued. Consultations and joint or collaborative efforts have been numerous. In areas in which the College Association has undertaken special activities the Council has wisely refrained from establishing programs that would duplicate or compete with these undertakings.

In 1942 the two organizations were brought into an even more intimate relationship with the formal creation of a liaison committee composed of representatives of both organizations. Meeting three or more times a year this committee has been largely successful in making possible a fine coordination of the activities of the two groups particularly in the matter of visiting and evaluating medical schools. Many other important examples of cooperation between these two groups could be cited. One of the most significant of course is the present Survey of Medical Education, which is being jointly sponsored by the Council and the Association of American Medical Colleges.

The Council places a high value on the importance of harmonious relationships between it and the College Association. The Council, therefore pledges that in the years ahead it will strive to preserve and strengthen this relationship which has benefited the public, the medical schools and the profession so greatly during the first half of this century.

Another group with which the Council has established an effective liaison is the American boards in the specialties and the Advisory Board for Medical Specialties. These boards have contributed immeasurably to the outstanding development of graduate medical education in the United States during the past fifteen years. With the establishment of the boards, the Council has been guided by the advice of the leaders in the various fields who compose these boards in preparing standards for residency training. Likewise, in evaluating hospitals for training in special fields, the Council has been able to do much more satisfactory work because of its close liaison with the individual boards.

Criticism has been leveled at times at the position that the Council and the boards occupy with respect to graduate training in medicine. The feeling has been expressed that the universities have surrendered the control of graduate education to groups that are neither educational institutions nor licensing bodies. If graduate training in this country were confined to universities such a criticism would carry much weight. Graduate training in the United States, however has from the start been decentralized, and much of it has been and is being conducted in institutions not under the supervision of universities. There has thus been and will continue to be a real need for the activities of the American boards and the Council in this field if suitable standards of graduate training are to be developed and maintained on a national basis. With the membership of the boards made up to a large extent of leading members of the faculties of universities there is every assurance that competent educators will have a strong voice in shaping the policies and practices of the boards and that universities will not find themselves hampered by the regulations of the boards in undertaking sound experiments in graduate education. Certainly the Council considers one of its important functions to be that of working in cooperation with both the universities and the boards to promote the development of high standards of graduate training based on sound educational principles.

As the government medical services have become increasingly active in the field of graduate medical education it has been natural that the Council's liaison with these services should have become closer Representatives of these services have for several years now regularly met with the Council and have worked with the Council's staff on problems of mutual interest

Another field in which the Council has demonstrated its capacity to serve as an integrating force in the broad field of medical education has been the relationships that it has developed over the last fifteen years with the various organizations concerned with the training of ancillary personnel including medical technologists physical therapists, occupational therapists medical record librarians and x-ray technicians At the request of the appropriate organizations in each of these fields the Council has collaborated in formulating standards of training and in accrediting institutions offering training in these fields Those most intimately concerned with these ancillary divisions have expressed the opinions that the support so given by the Council has been an important factor in placing training in these fields on a sounder basis and thus has increased the contribution that these services are making to the over-all health care program

I shall not continue to recount the activities of the Council in working with other agencies and groups to raise educational standards The current annual report of the Council lists more than fifty organizations with which the Council collaborated in one way or another during the past year on matters relating to the promotion of standards of medical education in its various phases

In a field that is as complex as medical education no organization can do everything that it would like to do or that many feel it should do The Council is no exception The Council further recognizes that the cooperation that it has sought to establish has at various times and for various reasons been imperfect The Council, however believes that today, just as much as forty-five years ago it has major functions and responsibilities to discharge on behalf of the medical profession in promoting standards of medical education The Council further believes that the principles that have guided its activities are sound

In the past forces have been at work that have misguidedly sought to lower the standards of medical education Current news dispatches indicate that we are not immune to such forces now, and we probably never shall be in the future At times these forces may threaten seriously to undo the advances that have been achieved or to prevent further advances These forces can be successfully withstood only if all groups concerned with medical education are working together To work vigorously for the advancement of medical education by fostering harmonious cooperation among all responsible groups will continue to be the basic philosophy and objective of the Council in the future as it has been in the past

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Purveyal of Medical Service—A physician should not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit exploitation of the services of the physician for the financial profit of the agency concerned Such a procedure is beneath the dignity of professional practice and is harmful alike to the profession of medicine and the welfare of the people —Section 6, Chapter III of the PRINCIPLES OF MEDICAL ETHICS of the American Medical Association

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SURVEY OF MEDICAL EDUCATION

Preliminary Observations

JOHN E DEITRICK, M D
Chicago

The survey on medical education in the United States was first proposed in 1947 At that time the Council on Medical Education and Hospitals of the American Medical Association and the Association of American Medical Colleges appointed a temporary committee to formulate a plan for a survey Early in 1948 a permanent, independent survey committee was appointed with the specific responsibility of supervising the conduction of the survey and preparing and publishing a report Some of the reasons for carrying out such a survey were as follows

First, only two surveys of medical education had been carried out in the United States The first was the Flexner Report in 1910 and the second the study made by Dr Herman Weiskotten in 1935 and 1936 Dean Rappleye's report in 1932 was an evaluation of medical education but did not involve an actual survey of each school Therefore, a period of fifteen years has passed since any comprehensive study of the problems of the medical schools has been made World War II occurred in this period, adding many new and difficult problems

Second, attention has repeatedly been called to the need for an examination of the requirements for matriculation prescribed by the medical colleges and to the criteria used in the selection of medical students

Third, many advances have been made in the science of medicine which need evaluation in terms of their impact on medical education and on the curriculum

Fourth, various new patterns of medical practice have been inaugurated

Fifth, heavy demands have been made on the medical colleges among which the following may be listed A demand for (a) an increase in the number of physicians—facts concerning the ability of the medical schools to expand enrolments have been lacking, (b) an expansion in the program of research in both the basic sciences and clinical medicine, (c) greater development of graduate and postgraduate medical education (d) the addition of new subjects to the medical school curriculum, such as biophysics, psychosomatic medicine, social medicine and atomic energy, (e) greater emphasis on certain phases of medical instruction, such as cancer, hypertension, psychiatry and heart diseases, and (f) the supervision and conduct of community health services in order to improve the quality of medical service to the people Medical colleges are being urged to develop affiliations and cooperate with local and regional hospitals, nursing services, public health departments and other health and welfare agencies in their service programs

These may be cited as some of the factors which gave rise to the feeling of the need for a survey of medical education The broad objectives of the survey have been stated and published on several occasions They are four in number The first is to improve medical education, better to meet the over-all needs of the American people for (1) the prevention of disease (2) the restoration so far as possible to health of all those who suffer illness or injury and (3) the maintenance of the best standards of physical and mental

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Director, Survey of Medical Education

Read before the Forty Sixth Annual Congress on Medical Education and Licensure, Chicago Feb 6 1950 health of all persons The second objective is to assess the degree to which medical schools are meeting the needs of the country for physicians The third is to promote the advancement of knowledge in the field of medical science The fourth is to inform the public concerning the nature content and purposes of medical education

METHOD OF SURVEY

A full time staff has been organized within the past year in order to carry on the work of the survey Members of the staff are Dr Robert C Berson a graduate of Vanderbilt University Medical School who was formerly assistant dean and assistant professor of medicine at the University of Illinois and Dr Thomas Hale also a graduate of Vanderbilt who is associate dean of the Albany Medical College and director of the hospital These two physicians as well as two full time secretaries and myself constitute the staff of the survey at the present time We have divided our work into the following headings

1 Preprofessional training of the physician

2 Undergraduate or four years of medical school training

3 The period of graduate training or of internship and residency

4 Postgraduate education

5 Community relationships Under this heading is included the relationships of the medical school with affiliated hospitals social and welfare agencies public health departments and local physician groups

It was soon realized in laying out the plans for the survey, that we would need additional help and advice It was therefore planned to form a subcommittee on preprofessional college education which would be responsible to the survey committee but would have considerable authority and responsibility for organizing its plans and method of study The purpose of this committee is to outline the problems arising in the preparation and admission of students to the medical schools and to propose methods and experiments for solving these problems Dr Aura E Severinghaus associate dean at Columbia University Medical College, has accepted the responsibility of acting as chairman of this committee He has been authorized to select the members of his committee and to plan its methods of study The survey committee hopes that it will be able to obtain a grant from a philanthropic organization in order to support this phase of the Survey of Medical Education The findings of the survey teams as they interview the faculty and students of the various medical schools will be correlated with the findings of this subcommittee

The survey committee also soon realized that if it were to cover graduate and postgraduate medical education, as well as the community relationships of the medical schools additional help and financial backing would be necessary Therefore we proposed to enlarge the full time staff in order to study more adequately some of these problems

The first of these problems was thought to be the trend to affiliate outlying hospitals with the medical school Such affiliations may frequently create major problems for the medical school with respect to the responsibilities they assume for the staff and for the quality of teaching and the development of research within these hospitals

The second trend that should be analyzed in this portion of the study is that of specialization The influence of this movement on the medical school on postgraduate training and on the general practice of medicine was felt to present a new challenge to medical education which would require careful study

The third trend is the growing demand for postgraduate courses The objectives and effectiveness of such education must be determined The patterns of teaching and experiments beings carried on at the present time in this field of education require evaluation

The fourth trend was the increasing importance of the medical school in community life It was felt that the value of the medical services and care made available to the community by the medical school should be evaluated and ways and means of wisely developing such services considered The survey committee is happy to announce that the W K Kellogg Foundation has made a grant in aid of $75 000 to cover a minimum of a two year period for the study of this portion of the survey

As the program of the survey committee became more comprehensive it became evident that it would be necessary to have the counsel and advice of persons representing large segments of public opinion It was therefore decided to form an advisory council the functions of which were outlined as follows first to advise the survey committee whether the plans for the conduct of the survey promise to gather satisfactory information concerning those aspects of medical education that are of interest to the general public second to review the progress of the survey from time to time to determine whether this information was being collected adequately and third to study the final report and advise the committee whether the broad interpretations are the logical outgrowth of the findings

This council has been organized and although it may be further enlarged at the present time it is composed of the following members Dr Raymond B Allen Seattle President of the University of Washington Dr Donald B Armstrong New York Vice President of the Metropolitan Life Insurance Company Detlev W Bronk Baltimore President of Johns Hopkins University George Bugbee Chicago Executive Director of the American Hospital Association William B Given Jr New York President of the American Brake Shoe Company Clinton S Golden Washington Labor Advisor to the Economic Cooperation Administrator General Paul R Hawley Chief Executive Officer of the Blue Cross Commission The Honorable Lister Hill United States Senator from Alabama J S Jones Executive Secretary of the Minnesota Farm Bureau Federation Edward L Ryerson Chicago Chairman of the Board of the Inland Steel Company Stanley Resor President of the J Walter Thompson Company Dr Leonard A Scheele Washington Surgeon General of the United States United States Public Health Service Harold E Stassen President of the University of Pennsylvania and Robert L Stearns President of the University of Colorado

Other special committees to advise or meet with the survey committee may be appointed as the need arises

The actual technic in the survey of each medical school is somewhat as follows A date is arranged with the dean of the medical school six to eight weeks in advance of the time set for a survey team to visit the school At this time questionnaire forms are forwarded to the dean They include a set of questions for the dean himself covering administration finances physical facilities and objectives of the school The second set of questions is used to cover the basic science departments and a third set to cover the clinical departments Included in these questionnaire forms are questions concerning hospital affiliations, welfare agencies and community relationships of the medical school The answers to these questionnaire forms are returned to the office of the survey They are reviewed by the team of men who are to visit the school

The teams of men thus far have been composed of three to four members Two are of the full time staff, the nucleus of the team In addition to these two men a volunteer who is usually a member of either the Council on Medical Education or the Association of American Medical Colleges is asked to participate in the survey In addition either the secretary of the Council on Medical Education Dr Donald G Anderson, or the secretary of the Association of American Medical Colleges Dr Dean F Smiley, has been good enough to participate as active members of these teams whenever possible This method has given the full time members of the survey staff the additional breadth of vision and judgment of the deans of various schools who have been active in medical education over a number of years A survey team will spend from four to ten days at each of the medical schools in the United States depending on the size and the scope of activity of the individual school

The first approach is to the dean in which an attempt is made to cover in brief form the historical development of the medical school its administration facilities finances objectives and staff The team then proceeds through each department of the medical school One member of the team devotes a considerable portion of his time to the internship residency training and postgraduate education The affiliated hospitals are visited and their educational programs reviewed and various, welfare agencies are consulted as well as the local medical society Whenever possible the president or the chancellor of the university is interviewed as well as members of the board of trustees A final discussion is held with the dean near the end of the survey

In order to meet younger members of the staff an attempt is made to have lunch every day with four to six members at the level of instructor or assistant professor One evening is spent with students from the junior and senior classes

In the course of the interviews with the dean faculty and students the needs and problems of medical education are stressed and their ideas and suggestions for meeting these needs carefully considered Experimental programs that are projected or under way are explored and observed It is our hope that from such considerations the trends in thinking of medical educators for the future can be outlined and certain fields for experimentation defined

After each survey a complete report of the medical school is written This is summarized and weighed, and the strong and weak points and the outstanding needs of the medical school are evaluated New experiments in education or in other fields are outlined The survey of ten medical schools has been completed since Sept 20, 1949 The program will include a survey of fourteen more schools before the end of the school year

It would be impossible to draw any valid conclusions from the survey at this time, and it is premature to list what appear to be the major problems thus far encountered although this has been done However, one need has been repeatedly emphasized, which is the need for information College students and college faculty members wish information concerning medical schools The medical students themselves are anxious to discuss medical school problems and have offered valuable suggestions, but they feel that they are uninformed concerning the policies and problems of their own schools The university administration and finance officers realize that the medical college has unusual problems and that they cannot ignore these problems They require facts concerning the cost and methods of financing medical education

Welfare and health agencies are critical of university hospitals and clinics Leaders in these fields state frankly that their criticisms arise from a lack of information and understanding of the medical school policies and financial problems The medical profession, as represented by its officers, is willing and at times anxious to discuss medical education, but officers state that they have not been informed concerning the problems presented to them They hope that the survey will be able to supply them with facts

There is no adequate method for evaluating the attitude of the general public, but according to newspaper reports, medical education is an important news item The problem of how to inform these various interested segments of the public is a challenge to all as well as to the survey

The survey committee plans to continue to make reports during the course of the survey The members of the survey staff are keenly aware of their responsibilities to the medical schools They appreciate the fact that money could not buy the cooperation and efforts which thousands of faculty members are contributing

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THERAPEUTIC EFFICACY OF Δ^5-PREGNENOLONE IN RHEUMATOID ARTHRITIS

Preliminary Observations

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The therapeutic efficacy of cortisone and pituitary adrenocorticotropic hormone (ACTH)[1] in rheumatoid arthritis has suggested the possible application of other steroid hormones in this disease To this end we have selected Δ^5-pregnenolone because of (*a*) its possible role as a precursor of more active steroid hormones[2], (*b*) its effect on decreasing fatigue[3], (*c*) its sparing action on the adrenal cortex[3] and (*d*) its lack of toxicity in

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We are indebted for supplies of pregnenolone and pregnenolone acetate to Syntex, S A, Schering Corporation and Ciba Pharmaceutical Products Inc, and for grant support to G D Searle & Co

[1] (*a*) Hench, P S, Kendall E C, Slocumb, C H and Polley H F Effect of Hormone of Adrenal Cortex (17 Hydroxy 11 Dehydrocorticosterone Compound E) and of Pituitary Adrenocorticotropic Hormone on Rheumatoid Arthritis Proc Staff Meet Mayo Clin **24** 181 1949 (*b*) Thorn, G W, Bayles T B Massell B F, Forsham P H, Hill S R, Smith S, and Warren J E Studies on the Relation of Pituitary Adrenal Function to Rheumatic Disease, New England J Med **24** 529, 1949

[2] (*a*) Selye H The Pharmacology of Steroid Hormones and Their Derivatives, Rev canad de biol **1** 577, 1942 (*b*) Pearlman W H and Pincus, G The Metabolism of Pregnenolone, Federation Proc. **5** 79 1946

[3] Pincus G, and Hoagland H Effects of Administered Pregnenolone on Fatiguing Psychomotor Performance, J Aviation Med **15**:98, 1944

both animals [4] and man [5] Davison and Koets [6] have already commented favorably on its possible value in ankylosing spondylarthritis In addition, its efficacy by mouth [7] has decided advantages to the patient over the parenteral administration necessary with pituitary adrenocorticotropic hormone or cortisone

SUBJECTS AND METHODS

The patients selected for the study presented definite evidence of rheumatoid arthritis according to the standards of the New York Rheumatism Association as presented in the article by Steinbrocker, Traeger and Batterman [8] In the evaluation of the data, the patients were classified according to the degree of progression of the disease (stages 1 to 4, slight osteoporosis to bone destruction and ankylosis), by the amount of limitation of functional activity (classes 1 to 4, no limitation to total incapacity), and finally by the response to therapy (grades 1 to 4, remission to unimprovement)

The patients included 30 subjects, 11 men and 19 women with ages ranging from 31 to 74 years, the average being 48 The duration of the disease varied from four months to twenty-nine years, the average being eleven years So far as the disease process was concerned 6 had had only slight cartilage or bone destruction (stage 2), 14 had had decided cartilage or bone destruction (stage 3) and 10 had severe bone changes with ankylosis (stage 4) In the main, therefore, they represented a group in whom extensive disease had occurred The functional capacity of the patients was limited to a varying degree One had no limitation of activity (class 1), 12 were able to carry on their usual activities despite the handicap of discomfort or limited motion in the joints (class 2), 15 could function to a limited degree (class 3), and 2 were almost entirely incapacitated Thus, in 17 of the 30 subjects there had been sufficient damage from the disease to curtail their activities to a pronounced degree

After the initial examination, which included roentgenograms, chiefly of the hands, blood cell counts and sedimentation rates, the subjects were given pregnenolone or pregnenolone acetate in 100 mg tablets The dose varied from 300 to 700 mg daily, the average being 500 mg The usual duration of treatment at the time of this report was six weeks, the range extending from two to eleven weeks The patients were seen at weekly intervals, and at irregular intervals repeat examinations were made of the white blood cell count, sedimentation rate and circulating eosinophils, the last to serve as an estimation of the state of reactivity of the adrenal cortex Weights, blood pressure and pulse rates were measured routinely Urinalyses were made at intervals because of the possible complication of diabetes mellitus, and in a small group neutral urinary steroid determinations were undertaken, with methods previously described [9]

On the basis of their response to the therapy the patients were divided into groups according to the criteria of Steinbrocker Traeger and Batterman [8] into major improvement (grade 2) minor improvement (grade 3) and unimprovement (grade 4) Grade 1 was not included, owing to the brief period of observation

RESULTS

Major Improvement (Grade 2)—Of the entire group of patients, 15 subjects (7 men, 8 women) by the aforementioned criteria [8] showed a major degree of improvement consisting of diminution of pain decrease in swelling, increase in mobility of joints and increase of functional capacity The improvement was noted as a rule, within a week and occasionally only during the second week of medication The course was usually progressive A concomitant lessening of fatigue accompanied the symptomatic improvement In the cases in which there had been extensive damage to the bones residual deformities and weakness were still present The average chronologic age of this group was 44 years (range 31 to 65), the average age at the onset of symptoms was 30 years (range 17 to 63), the average duration was fourteen years (range two to twenty-nine) In regard to the degree of progression of the arthritic condition, 2 subjects were in stage 2, 9 in stage 3 and 4 in stage 4 In regard to functional capacity, 6 were in class 2 and 9 in class 3 In view of the fact that over half the patients showed extensive damage to the affected joints and in addition were initially decidedly limited in their functional capacity, the extent of the improvement was encouraging

The sedimentation rates were initially abnormal in 10 patients and normal in 3 At the end of the period of medication, the sedimentation rate was normal in 5 and was still high in 8 In 4 of the latter group there was a distinct trend toward the normal The change toward the normal occurred after several weeks of medication It did not parallel the symptomatic improvement, and indeed by clinical experience, as exemplified in Steinbrocker's [8] paper, patients showing major improvement may still exhibit elevated sedimentation rates

Circulating eosinophils were measured as an index of adrenocortical reactivity in 8 subjects The initial values varied widely from 50 to 763 per cubic millimeter The average was 279 per cubic millimeter which is within normal limits No parallelism could be noted between the clinical state and the number of circulating eosinophils within the patients After treatment had gone on for about a month, the eosinophils were again counted The mean value was 293 per cubic millimeter, an insignificant change The count decreased in 4 subjects and increased in the other 4 In general, the initially higher figures tended to decrease and the initially lower values tended to increase so that the distribution of values after medication is much more limited than before There seemed to be no consistent relationship between the changes in the sedimentation rate and the level of the circulating eosinophils

In view of the rapid recurrence of symptoms following discontinuation of treatment with pituitary adreno corticotropic hormone and cortisone the relapse rate is of interest Eight of the 15 patients had their medication discontinued, 6 of these were given placebo tablets Of these, 1 had a recurrence of symptoms after four days, 1 after seven days and 1 after five weeks Of the 5 remaining, 1 is maintaining his improvement after two weeks, 1 after four weeks 1 after five weeks 1 after six weeks and 1 for four months It would seem, then that the improvement continues for longer periods of time than with pituitary adrenocorticotropic hormone and cortisone The rapidity with which the symptoms recur does not seem to be related to the duration of therapy, the degree of improvement or any known specific characteristics of the clinical picture

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[6] Davison R and Koets P in Progress in Treatment of Rheumatic Disorders International Congress of Rheumatology Brit. M J **2** 154 1949

[7] Footnotes 3 and 5

[8] Steinbrocker O Traeger C H and Batterman R C Therapeutic Criteria in Rheumatoid Arthritis J A M A **140** 659 (June 25) 1949

[9] Pincus G The Analysis of *Human Urines for Steroid Substances* J Clin Endocrinol **5** 291 1945

Of the 8 subjects in whom treatment was discontinued the patient who relapsed most rapidly had a normal sedimentation rate but in the other 2 who relapsed the sedimentation rate was still elevated Of the 5 who have maintained their improvement 3 had a normal sedimentation rate, 1 had an elevated rate and in 1 it was not determined The data, though inadequate suggest that a longer period of remission of symptoms might be obtained if the medication were to be continued until the sedimentation rate becomes normal

Moderate Improvement (Grade 3) —There were 11 subjects who achieved a degree of improvement graded as mild (grade 3) They included 2 men and 9 women The chronologic age was on an average 50 (range 31 to 74) The age at onset was on an average 41 years (range 18 to 64) The average duration of the disease was nine years (range one-third to twenty-six years) From the point of view of progression of the disease, the subjects were classified as follows 4 in class 2, 4 in class 3, and 3 in class 4 Seven of the 11 patients, therefore, showed evidences of severe destructive processes Functionally, however, they were not quite so incapacitated One was in class 1, 5 were in class 2 4 were in class 3, and 1 was in class 4 Thus, half of the patients showed definite limitation of activities and only 1 was extremely crippled They were given medication on an average of 5 8 weeks (range three to ten) Sedimentation rates were determined before medication on 10 of the subjects In 2 the rates were normal and in 8 rapid After medication, data were obtained on 7 subjects Of these, 2 with a previously abnormal sedimentation rate showed a subsequent normal rate of fall Four others showed a persistently high rate, although in 2 it was less rapid than it had been

Table 1—*Relationship Between Progression of Disease (Rheumatoid Arthritis) and Therapeutic Response to Pregnenolone*

	Therapeutic Response, Grades		
Progression of Disease Stages	2 Striking	Mild	4 None
2 Mild	2	4	
Pronounced	9	1	1
4 Severe	4		3

Table 2—*Relationship Between Functional Capacity in Rheumatoid Arthritis and Therapeutic Response to Pregnenolone*

	Therapeutic Response Grades		
Functional Capacity Class	2 Striking	3 Mild	4 None
1 No limitation		1	
2 Slight limitation	6	5	1
Decided limitation	6	7	2
4 Totally incapacitated		1	1

The circulating eosinophils were measured in 7 patients before medication The mean was 331 cells per cubic millimeter and the range was 120 to 881 In 4 subjects values were obtained before and after medication Before treatment the mean was 285 cells (range 120 to 394) and after medication the mean was 236 cells (94 to 481) Three of the 4 subjects showed a decrease in eosinophils and 1 showed an increase Administration of the medicament to 8 patients was discontinued after varying periods of time, 4 being given placebos On 2 subjects follow-up data were not obtained In 3 patients there has been no recurrence of symptoms, in 1 there was a recurrence after three weeks (sedimentation rate fast), in 2 after six weeks In 3 subjects relapses occurred, in 2 within one week after discontinuation of the drug (fast sedimentation rates), in 1 within two weeks (normal sedimentation rate) Again the evidence is suggestive that a normal sedimentation rate predisposes to a longer remission

Lack of Improvement (Grade 4) —Four patients showed *no improvement* They included 1 man and 3 women Their chronologic ages varied from 45 to 70 years, the mean being 56 The disease was first noted on the average at age 48 (range 38 to 60), so the average duration of the disease was eight years (range three to fifteen) The disease had progressed extensively in all 1 being at stage 3 and the others at stage 4 So far as functional activity was concerned, the patient who had the least progression had only a mild degree of limitation of function (class 2) while 2 of the others had severe impairment (class 3) and the fourth was practically bedridden They were treated for an average of five weeks (range three to eight) Sedimentation rates were abnormally high in the 3 patients in whom it was obtained After a period of therapy rechecks showed no change The reason for the lack of therapeutic response in these cases is unknown Since these cases on the whole represented a further progression of the disease than the other groups, it may be that factors inherent in the condition limit the reactivity of the patient

Analysis of Data —The data were analyzed to determine whether the response to therapy depended on the degree to which the disease had progressed Table 1 shows that the largest number of subjects with a striking improvement (grade 2) had a pronounced involvement (stage 3) Since 4 of the 10 patients with severe progression (stage 4) showed a striking improvement also, it is evident that the prognosis for such patients may be more hopeful than would at first be considered

A similar analysis (table 2) was undertaken for the relationship between the therapeutic response and the functional capacity of the patient at the initial examination Again it is obvious that as many patients do well who have had decided limitations in their activity (class 3) as those whose condition has hampered them to only a mild degree (class 2)

No difference could be seen between the results of treatment with pregnenolone or pregnenolone acetate Initially, the patients were maintained solely on either medicament, but with the development of the study the two drugs were used interchangeably in successive weeks

No toxic effects were noted with either compound Weights, heart rates and blood pressures were unaffected Several patients with hypertension were included in the study, but no change was noted in the blood pressure Glycosuria was not seen Two diabetic persons are included in the series, one with mild and one with severe disease The diabetic condition was unaffected No effect was noted on the menstrual cycles of premenopausal women There were occasional mild complaints of increased or decreased frequency of urination, slight constipation or infrequently of headaches, but no symptoms were serious or maintained over a long period of time

Urinary steroid determinations were made before and during the first week of pregnenolone administration in 7 patients on twenty-four to forty-eight hour urine collections The mean data are summarized in table 3 Although the data are inadequate for detailed analysis, certain deductions are obvious (*a*) during therapy there is generally an increase in output of all types of steroids measured, (*b*) there is no clear relationship of excretionary change to degree of improvement The Zimmerman reaction measurement includes 20-ketosteroids as well as 17-ketosteroids, so that the increase might be attributed to excreted pregnenolone, but the antimony trichloride ($SbCl_3$) reaction excludes pregnenolone, because it is very nearly specific for androsterone and its isomers[10] It follows, therefore either that pregnenolone is metabolized to androsterone-like substances or that it stimulates the adrenals to produce 17-ketosteroid precursors The nonketonic steroid change might be attributed to an increased excretion of pregnanediol, since this substance is a metabolite of pregnenolone,[2b] but other metabolites are not excluded Further study is obviously indicated

Table 3—*Excretion of Neutral Urinary Steroids in Patients Showing Varying Degrees of Improvement*

Therapeutic Response Grade	Number of Patients	17 Ketosteroids Zimmerman Reaction Mg per Hour		17 Keto steroids $SbCl_3$ Reaction Mg per Hour		Nonketonic Steroids $SbCl_3$ Reaction Mg per Hour	
		Before Rx	Rx	Before Rx	Rx	Before Rx	Rx
2	2	0.30	0.47	0.25	0.30	0.22	0.14
3	3	0.27	0.59	0.14	0.49	0.16	0.25
4	2	0.41	0.55	0.24	0.32	0.20	0.33
All patients	7	0.32	0.54	0.20	0.36	0.19	0.24

COMMENT

It is evident from the results that with the regimen pursued approximately half the patients treated with pregnenolone showed a decided improvement Approximately 30 per cent of the others showed some degree of amelioration of symptoms Approximately 20 per cent showed no change

The reasons for the variation in response is as yet unknown. There seems to be no relation between the degree of progression of the disease or of limitation of activity to the degree of response The sedimentation rates before medication are essentially the same for the three groups, as are also the circulating eosinophil values There does not seem to be a factor in the aging process in relation to the therapeutic response, since of the 15 subjects who achieved a striking benefit (grade 2) 8 were over 40 years of age while the other 7 were under 40 Sex is not an important factor of these 15, 7 were men and 8 were women

The degree to which psychologic factors influenced the improvement is not easy to estimate In view of the wide publicity attendant on the therapeutic success with pituitary adrenocorticotropic hormone and cortisone, an aura of hope inevitably colored the reaction of the patients to the therapy In some of the patients placebo medication was used for the first two weeks The results were varying but in no case was any appreciable change noted Nevertheless it is possible that in some of the patients who experienced mild improvement the compound may have had little therapeutic effect Against this supposition is the long duration of the disease in these patients (average nine years), during which time they had tried the usual gamut of treatments without successful results and with a consequent tendency to pessimism in their outlook

When there was striking benefit there was no doubt in the minds of the observers of the efficacy of the material, the improvement of the patients was consistent in both type and temporal onset In addition the tendency to relapse on placebo medication noted in 3 of 6 patients with mild improvement and 3 of 6 with striking improvement with resumption of improvement on hormonal therapy, militate against the supposition of purely psychologic effects

The relapse after discontinuance of pregnenolone therapy is not as rapid as that after treatment with cortisone or pituitary adrenocorticotropic hormone[1a] Eight of 14 patients have maintained their stage of improvement for an average of six weeks (range two to sixteen) The changes produced on the tissues by pregnenolone, although not as rapid as with these other medicaments, seem not to be of as transient a nature A more mature judgment must await a longer period of observation

Pregnenolone does not reduce the sedimentation rate as rapidly or as consistently as does cortisone or pituitary adrenocorticotropic hormone Whether this difference is due to a less striking effect of the material on the arthritic condition or to a qualitative variation in the effect on the disease process is as yet unknown The effect of the pregnenolone on the circulating eosinophils is likewise not similar Pituitary adrenocorticotropic hormone and cortisone[1b] consistently depress the values of this type of blood cell but with pregnenolone therapy the values may increase or decrease equally in patients showing a clinically comparable degree of improvement It may be that the relative eosinophilia may be due to the adrenocortical sparing action of the hormone as noted in the stress studies of Pincus and Hoagland[3] If it is considered that arthritic symptoms are due to desoxycorticosterone-like substances produced endogenously then pregnenolone (or a metabolite) may act as an analogue to desoxycorticosterone blocking its typical action

Whatever the mode of action of the compound approximately 50 per cent of our patients with rheumatoid arthritis improve decidedly and up to 30 per cent more improve to a lesser degree on the administration of pregnenolone The lack of toxicity of this steroid and its ease of administration make it worthy of more extensive trial, especially in view of the scarcity and the inconvenience of administration of pituitary adrenocorticotropic hormone and cortisone It may serve to minimize the number of patients for whom the latter hormones are essential and may serve possibly to maintain those in whom those hormones give initial improvement

It should be emphasized however that the results achieved in this study are in a preliminary stage Lack of adequate control studies makes it impossible to estimate accurately either the possibility of spontaneous improvement or the influence of psychologic factors However, in view of the long duration of the disease in these patients and the multiplicity of previous treatments, it is not considered that either factor introduced serious errors in the evaluation of the results Nevertheless, a more systematic investigation and more prolonged periods of therapy are desirable before final conclusions concerning the value of this type of therapy

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[10] Pincus G New Color Reaction for Certain Urinary 17 Ketosteroids Endocrinology 32: 176 1943

SUMMARY

A total of 30 patients with rheumatoid arthritis of varying degrees were given pregnenolone or pregnenolone acetate orally for an average of six weeks, the dosage averaging 500 mg daily Fifteen patients experienced striking relief, 11 patients showed a mild degree of improvement, and 4 patients did not obtain improvement Of 16 subjects in whom treatment has been discontinued, improvement has been maintained an average of six weeks No toxic effects were noted

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EARLY DIAGNOSIS OF GASTRIC CANCER

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Gastric cancer, because of its frequency and the insidiousness of its clinical course, presents a real problem to all concerned with its diagnosis and treatment The end results of surgical treatment are influenced remarkably by the stage of development of the gastric cancer at the time of surgical intervention, for, when no metastases are present, the five year survival rate is approximately 60 per cent, whereas with node metastases the survival rate is less than 5 per cent[1] Unfortunately, by the time the patient has only vague symptoms due to gastric carcinoma, the disease is usually far advanced In order that early diagnosis may be made, patients with gastric cancer in the silent phase or, preferably, those persons who might be potential harborers of gastric cancer must be identified

At the Gastric Cancer Conference held in Chicago in 1946,[2] our initial experiences with this study were reported We felt the preliminary results of the study were sufficiently encouraging to warrant its continuation In this presentation our observations to date will be reported

MATERIAL AND METHOD

Patients in the following groups were considered to be potential harborers of silent gastric carcinoma and were set aside for special study The patients, outpatient clinic registrants at the University Hospitals, were past the age of 50 years and were free of digestive complaints

Group 1, Patients with Achlorhydria and Hypochlorhydria—Three successive doses of 0 5 mg of histamine phosphate were administered at twenty minute intervals to stimulate the flow of gastric acid in patients in group 1 Free hydrochloric acid was tested for with Topfer's reagent and phenolphthalein as indicators Gastric roentgenograms were made of those patients with achlorhydria These examinations consisted of fluoroscopic observations made after the ingestion of barium, an appropriate number of routine and spot films were taken for permanent records and to facilitate the diagnosis of obscure lesions In a number of instances, usually because of reactions, patients were not given the three conventional doses of histamine phosphate These patients have been designated separately, according to the number of histamine phosphate injections given

In 1940 Wetherby,[3] of our institution, reported on a group of persons who were observed to be achlorhydric after a single injection of 0 5 mg of histamine phosphate As many of these patients as possible were recalled for repeat gastric analyses and roentgenograms of the stomach

A number of patients had free hydrochloric acid after histamine stimulation, but in reduced amounts If the maximum amount of free hydrochloric acid did not exceed 30 degrees, patients with this condition were designated as hypochlorhydric and gastric roentgenograms were made

Group 2, Patients with Pernicious Anemia—The group of patients with pernicious anemia included previously observed as well as new patients The diagnosis in each case was confirmed by bone marrow studies Gastric analyses, gastric roentgenograms and, whenever possible, gastroscopic examinations were made of these patients Frequent gastric roentgenograms had been made of many of the previously observed patients with pernicious anemia, for these patients had been studied carefully by Drs Rigler, Kaplan and Fink[4]

Group 3, Persons with a Positive Family History of Gastric Carcinoma—The living blood relatives of patients who had been operated on at the University Hospitals for gastric carcinoma were contacted and requested to report for gastric analyses as well as gastric roentgenograms In this group, although gastric analyses were done routinely, gastric roentgenograms, were made of all persons, regardless of whether or not they showed free hydrochloric acid in the gastric juice

Groups 4 and 5, Patients with Hemoglobin Values of 11 0 Gm or Less and/or Occult Blood in the Stool—From July 1946 patients with hemoglobin values of 11 0 Gm or less and/or occult blood in the stool were also studied in an effort to include more persons potentially harboring gastric cancer The guaiac test was used to determine the presence of occult blood Whenever possible, the patient was placed on a meat-free diet for three days prior to the test Gastric roentgenograms were made of these patients regardless of the degree of free hydrochloric acid observed on gastric analysis

OBSERVATIONS

From July 1, 1945 to April 1, 1949 gastric analyses were done on 3,921 persons

Group 1, Patients with Achlorhydria and Hypochlorhydria—The incidence of achlorhydria and hypochlorhydria in this group is shown in table 1 Roentgen examination revealed 38 gastric polyps and 8 gastric carcinomas in 1,450 persons with achlorhydria and hypochlorhydria (table 2) In addition to the find-

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[1] State, D, Moore, G, and Wangensteen, O H Carcinoma of the Stomach, J A M A 135 262 (Oct 4) 1947

[2] State D, Varco, R, and Wangensteen, O H An Attempt to Identify Likely Precursors of Gastric Cancer, J Nat Cancer Inst 7 379 1947

[3] Wetherby M Gastric Achlorhydria A Clinical and Gastroscopic Study Univ Minnesota Hosp Bull 12 475, 1941

[4] Rigler, L G, Kaplan, H S, and Fink, D L Pernicious Anemia and the Early Diagnosis of Tumors of the Stomach, J A M A 128 426 (June 9) 1945

ings shown in tables 1 and 2 there have been 20 cases involving questionable gastric polyps, that is, cases in which the roentgenographic findings were suggestive but not conclusive. In 2 patients gastric cancers were missed through organizational errors in the early part of the study. A gastric cancer in a third patient was overlooked because of misinterpretation of the roentgenograms. This latter carcinoma was found at the time of operative procedures performed on this patient for an unrelated condition. These 3 cases are included in this report because they indicate the potential number of patients with gastric carcinoma who might have been found in this survey. Of the 8 carcinomas 5 were early, well localized and without metastases, the remaining 3 were further advanced and had lymph node metastases.

Group 2, Patients with Pernicious Anemia.—One hundred and eighty-seven roentgen examinations of the stomach revealed 4 gastric polyps (4.2 per cent) and 3 gastric carcinomas (3.2 per cent) in 94 (50 new and 44 previously examined) patients with pernicious anemia. One additional questionable gastric polyp was found. Two gastric polyps were found by gastroscopic examination, although they were not seen in the gastric roentgenograms. Of the 3 cancers, 2 were without lymph node metastases at the time of surgical intervention.

Group 3, Relatives of Patients with Gastric Cancer.—Seventy-eight roentgen examinations of the stomach revealed no gastric polyps and no gastric carcinomas in 81 relatives of patients with gastric cancer.

Group 4, Patients with Hemoglobin Levels of 11.0 Gm. or Less.—Sixty-two roentgen examinations of the stomach revealed no gastric polyps and no gastric carcinomas in 62 patients with hemoglobin levels of 11.0 Gm. or less.

Group 5, Patients with Occult Blood in the Feces.—Sixty-three roentgen examinations of the stomach revealed no gastric polyps and no gastric carcinomas in 87 patients with occult blood in the feces.

In all the groups studied (table 3) 2,390 gastrointestinal roentgen examinations were made on 1,774 persons, and 42 gastric polyps (2.9 per cent) and 11 gastric carcinomas (0.6 per cent) were found.

COMMENT

Group 1, Patients with Achlorhydria and Hypochlorhydria.—The frequent association of achlorhydria with gastric carcinoma suggests the validity of the acceptance of the criterion of achlorhydria in surveys aimed at the detection of gastric cancer. Hebbel and Gaviser[5] found that, after histamine stimulation, about 65 per cent of the patients with gastric carcinoma have achlorhydria and an additional 21 per cent show hypochlorhydria (less than 30 degrees free acid). In contrast to the high incidence of achlorhydria and hyperchlorhydria seen with gastric cancer it has been noted[6] that achlorhydria and hypochlorhydria are not consistently seen with extragastric carcinoma, for in this group the incidence of achlorhydria and hypochlorhydria was about 30 per cent, a circumstance which appears to be the same for persons of the same age group who do not have carcinoma.

The studies of St. John, Swenson and Harvey in 1944 and Dailey and Miller in 1945[7,8] indicated the need for some practical plan for screening out those patients most likely to be harboring a silent gastric carcinoma. The former group of investigators made a brief fluoroscopic examination, after the ingestion of barium, of the stomachs of 2,413 patients over the age of 50 without gastric complaints. In this group of patients 2 silent gastric cancers and 1 lymphosarcoma were found. No gastric polyps were encountered. Dailey and Miller in 1945[8] made gastric roentgenograms on 500 presumably normal men over the age of 50 who were free of digestive complaints. Three gastric lesions were found, 1 benign gastric ulcer, 1 polyp and 1 antral gastritis. In this study of precursors the use of achlorhydria and hypochlorhydria as "filters" has permitted the discovery of a greater number of unsuspected gastric carcinomas for a given number of roentgen examinations of the stomach (table 4). In 1,544 patients with achlorhydria and hypochlorhydria 11 gastric cancers and 42 gastric polyps were found. It is of significance to note also that of the 11 gastric carcinomas 7 were still limited to the stomach and had no lymph nodes metastases at the time of surgical intervention. The remaining 4 had metastases to regional lymph nodes but gastric resections were carried out.

Table 1.—*Incidence of Achlorhydria and Hypochlorhydria*

Category	Patients	Male	Female	Gastro-intestinal Roentgen Examination
Achlorhydria from histamine phosphate				
3 dose	[illegible]	[illegible]	[illegible]	[illegible]
2 dose	[illegible]	145	114	[illegible]
1 dose	309	148	161	[illegible]
Wetherby group[3]	110	[illegible]	[illegible]	[illegible]
Hypochlorhydria	203	109	[illegible]	175
Total	1,450	816	[illegible]	[illegible]

Table 2.—*Results of Examination in Achlorhydric and Hypochlorhydric Patients*

Category	Patients	Gastrointestinal Roentgen Examination	Findings	
			Gastric Polyp	Gastric Cancer
Achlorhydria	[illegible]	[illegible]	[illegible]	[illegible]
Hypochlorhydria	203	175	3	1
Wetherby group[3]	110	[illegible]	[illegible]	1
Total	1,450	[illegible]	[illegible] ([illegible]%)	[illegible] ([illegible])

Group 2, Persons with Pernicious Anemia.—The relationship of pernicious anemia and gastric carcinoma has been noted by a number of observers (Rhoads,[9] Borrmann[10] and Rigler[11]). In our previous reporwhich included 79 patients with pernicious anemia, no gastric carcinomas or polyps were found We felt that this was due to the fact that we were examining a group of patients who had undergone careful scrutiny just a short time previously by Dr Rigler and his co-workers The discovery, made since our initial report, of 3 gastric cancers and 4 polyps in 94 patients with pernicious anemia would tend to confirm the suggestion that a greater than normal incidence of gastric neoplasms is to be anticipated in patients who have pernicious anemia Too it stresses the need for frequent gastric roentgenograms of patients with pernicious anemia

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[5] Hebbel, R., and Gaviser, D.: The Relationship Between Gross Types of Gastric Carcinoma and Anacidity, Surgery 24: 312, 1948.

[6] Nirzi, S.; State, D., and Wangensteen, O. H.: The Relationship of Gastric Acidity to Gastric and Extra Gastric Neoplasm, Surgery 26: 1, 1949.

[7] St. John, F. B.; Swenson, [illegible] C., and Harvey, H. D.: [illegible] in the Early Diagnosis of Gastric Carcinoma, Ann. Surg. 119: [illegible]

[8] Dailey, M. E., and Miller, E. J.: [illegible] Gastric Cancer in Five Hundred Apparently Healthy Men [illegible] and [illegible] Gastroenterology 5: [illegible]

[9] Rhoads, C. P.: Gastric Cancer As a Sequel [illegible] larly the Gastritis of Pernicious Anemia, J. Nat. Cancer Inst. 1: [illegible] 1941.

[10] Borrmann, R.: Geschwülste des Magens und Duodenums, in Henke, F., and Lubarsch, O.: Handbuch der speziellen [illegible] und Histologie, Berlin, Julius Springer, 1926, vol. 4, [illegible]

[11] Rigler, L. G.: Pernicious Anemia and the E[illegible] D[illegible] of Carcinoma of the Stomach, [illegible] 41: [illegible]

Group 3, Persons with a Family History of Gastric Carcinoma—In our initial report we noted that the incidence of gastric cancer was 15 6 per cent in the families of patients with gastric carcinoma In the families of patients with gallbladder disease, the incidence of gastric carcinoma was 10 per cent, in the families of patients with colonic cancer it was 9 4 per cent and in the families of patients with hemorrhoids, it was 12 per cent This increased incidence of gastric cancer in the families of patients with gastric carcinomas was, not statistically significant It was our feeling, however, that relatives of patients with gastric carcinoma should be studied Responses to our requests were extremely poor We wrote or contacted over 200 persons, but only 81 appeared for examination In this group of 81 persons, 78 gastrointestinal roentgen examinations were made and no gastric carcinoma or polyps were found

Table 3—*Observations in a Study to Uncover Early Silent Gastric Cancers (July 1, 1945 to April 1, 1949)*

Groups	Number of Patients	Gastrointestinal Roentgen Examinations	Findings	
			Polyps	Cancers
1 Patients with achlorhydria	1,137	1,657	29 (plus 14 questionable)	6 (plus 1 questionable) *
Patients with hypochlorhydria	203	175	3	1
Wetherby group[3]	110	168	6 (plus 6 questionable)	1
2 Patients with pernicious anemia	94 (50 new 44 previously examined)	187	4 (plus 1 questionable)	3
3 Relatives of patients with gastric cancer	81	78		
4 Patients with hemoglobin levels of 11 Gm or less	62	62		
5 Patients with occult blood in the feces	87	63		
Total	1,774	2,390	42 (2 0%)	11 (0 6%)

* Two additional cancers were missed through organizational errors A third carcinoma was overlooked because of misinterpretation of roentgenograms

Groups 4 and 5, Patients with Hemoglobin Levels Below 11 0 Gm and Patients with Occult Blood in the Stool—The number of persons in these two categories is small, 62 and 87, respectively, and no gastric neoplasms were found A large number of patients in the study had low hemoglobin values and/or occult blood in the stools, but definite causes for these abnormalities were noted In addition, a number of these persons also had achlorhydria or hypochlorhydria and consequently were placed in group 1 Therefore, the persons that appear on our records in these groups represent those who do not fall into the other categories in the study

Group 6, Persons with Gastric Polyps—Forty-two gastric polyps have been uncovered in this study Although many authors (Borrmann[10] and Rigler[11] among others) have indicted polyps of the stomach as precancerous lesions, their actual fate is difficult to evaluate in any given circumstance, as Spriggs and Marxer[12] have indicated It has been one of the purposes of this study to attempt to secure a more satsisfactory answer to the problem of whether or not gastric polyps do become cancerous To this end, in addition to the 42 polyps discovered in this study, the case records of 47 additional patients with known gastric polyps have been culled from the hospital records from 1936 to the time of writing (table 5) In each instance the diagnosis of polyps has been made only after roentgenographic or gastroscopic examinations or both

To the time of writing 31 of the 89 patients with gastric polyps have been operated on In 7 instances the polyps were found to be cancerous by histologic examination In the group of patients with the 42 polyps discovered in this study of gastric cancer precursors, 11 have been operated on In 3 instances the polyps removed were diagnosed as adenocarcinoma and in one instance there were metastases to the regional lymph nodes There is a question whether the cancerous polyps which were discovered had arisen from previous benign polyps or whether they had been cancerous from their onset Although no definite answer can be given to the problem of cancerous degeneration of benign polyps, it is important to notice that in 89 cases 7 polyps were cancerous an incidence of 7 8 per cent Further studies are being carried out to determine the criteria which indicate the presence of cancerous changes, and efforts are being made to determine the eventual fate of all gastric polyps under our observation

CANCER DETECTION CENTER

Largely as a result of the stimulus given to the problem of uncovering early, silent carcinomas in the study of gastric cancer precursors, the Cancer Detection Center was set up at the University of Minnesota in March 1948 The persons examined at the Center are apparently in good health and over the age of 45 Before coming to the Cancer Detection Center the patients are placed on a meat-free diet for three days and are requested to bring in a stool specimen, which is examined for occult blood both by the benzidine and guaiac technics In addition to the routine physical examination, all persons are given complete blood and urine examinations, a routine proctoscopic examination and a gastric analysis, with a single dose of 0.5 mg of histamine phosphate as a gastric secretion stimulant Women are given a pelvic examination by a gynecologist, and recently smears, stained by the Papanicolaou technic, have been taken of vaginal and cervical secretions A photofluorogram of the chest is made in each case, and if there are any abnormal findings a routine chest plate is obtained

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[12] Spriggs E I, and Marxer, O H Polyps of the Stomach and Polypoid Gastritis, Quart J Med **12** 1 1943

In an effort to interpose practical filters, gastric roentgenograms are made on the following persons (1) patients with achlorhydria or hypochlorhydria (less than 30 degrees free acid), (2) patients with occult blood in the stool, (3) patients with unexplained hemoglobin levels below 11.0 Gm, and (4) patients with a family history of gastric cancer Barium enemas are given to the following persons (1) patients with occult blood in the stool (2) patients with abnormal proctoscopic findings such as polyps and bloody mucus, (3) patients with unexplained hemoglobin levels below 11.0 Gm, and (4) patients with a family history of colonic cancer

TABLE 4—*Results of Studies for Determining Unsuspected Gastric Cancer*

Investigators	Patients Receiving Gastrointestinal Roentgen Examinations	Findings
St John Swenson and Harvey (1944)	2,413 over age 50 without gastric complaints	2 carcinomas 1 lymphosarcoma
Dailey and Miller (1945)[8]	500 men over age 45 presumably free of digestive complaints	1 benign gastric ulcer 1 gastric polyp 1 antral gastritis
University of Minnesota (1945 to 1949)	1,544 over age 50 free of digestive complaints with histamine phosphate induced achlorhydria and hypochlorhydria (less than 30 free acid)	11 gastric cancers 42 gastric polyps

TABLE 5—*Gastric Polyps*

	Gastric Cancer Precursor Groups July 1 1945 to April 1 1949	Patients with known Gastric Polyps Jan 1 1936 to April 1 1949	Total
Number of patients with polyps	42	47	89
Number of patients operated on	11	20	31
Number of carcinomas	3 (7.1%)	4 (8.0%)	7 (7.8%)

OBSERVATIONS

From March 1, 1948 to April 30, 1949, 1,715 patients (860 men and 855 women) were examined In this group of persons 20 silent carcinomas have been found The types of lesions and the organs involved are given in table 6 Of the 1,715 patients 293 were achlorhydric and 189 were hypochlorhydric after administration of histamine phosphate In this group 312 gastrointestinal roentgen examinations were made, and 1 person[13] with gastric carcinoma and 2 with a gastric polyposis were found The gastric cancer that was found was 0.7 cm in diameter and was confined entirely to the gastric mucosa

In addition to the previously noted carcinomas, 421 precancerous lesions have been discovered (table 7) Among these were 194 rectal polyps The incidence of rectal polyps in this group of persons over age 45 was thus approximately 11 per cent This figure is somewhat higher than previous reports in the literature would indicate, although Swinton[14] reported an incidence of rectal polyps of 7 per cent It must be remembered, however, that the age group which we examined is a select one, consisting of persons over age 45, and, consequently, it might be expected that the number of rectal polyps would be greater in this group than in the younger age groups We found, in 55 instances (table 8), lesions such as pelvic masses and tumors of the breast, which required further diagnostic studies to determine their exact nature Persons with these conditions were sent back to their referring physician to have the appropriate diagnostic procedures carried out A number of these lesions undoubtedly will be cancerous and will further increase the number of carcinomas uncovered at the Cancer Detection Center

TABLE 6—*Cancerous Lesions Found at the Cancer Detection Center*

Type of Carcinoma	Site	Number
Basal cell carcinoma	Skin	6
Squamous cell carcinoma	Skin	1
Squamous cell carcinoma	Esophagus	1
Adenocarcinoma	Stomach	1
Adenocarcinoma	Cecum	2
Adenocarcinoma	Sigmoid	3
Adenocarcinoma	Rectum	3
Adenocarcinoma	Prostate	1
Lymphosarcoma		1
Chronic lymphatic leukemia		1
Total		20

Considerable controversy exists at the present concerning the practicability and value of a cancer detection center The pilot plant which we have set up at the University Hospital has as its prime purpose the evaluation of some of these points Our center, we feel, differs from others in that, in addition to the routine physical examination and blood and urine examinations, a proctoscopic examination and a gastric analysis are done and an effort is made to determine whether occult blood is present in the stools

TABLE 7—*Precancerous Lesions Found at the Cancer Detection Center*

Type of Lesion	Site	Number
Senile keratosis	Skin	36
Polyps*	Stomach	2
Polyps	Rectum	194
Polyp	Vocal cord	1
Kraurosis	Vulva	6
Leukoplakia	Mouth	31
Pigmented nevi in area of irritation	Skin	7
Solitary adenomas	Thyroid	10
Total		421

If histamine-induced achlorhydria and hypochlorhydria and the presence of occult blood in the stool prove to be worth while preliminary tests to suggest the necessity for further roentgen es of the -intestinal tract, particularly omach

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13 Two additional patients with gastric carcinoma were found but it was felt that these patients already had symptoms when seen at the Cancer Detection Center

14 Swinton nd H ey c Lesion of the hey (7

colon, it is apparent that these are tests which may be done in the office of any physician who affects an interest in cancer The devising of such filters, in the absence of specific biologic tests for cancer, will help to lessen the burden of roentgen studies which fall heavily on roentgenologists in the Cancer Detection Center

TABLE 8—*Lesions Requiring Further Diagnostic Procedures Found at the Cancer Detection Center*

Site of Tumor	Number
Adnexa	11
Breast	10
Lip	7
Tongue	7
Cervix uteri	7
Corpus uteri	4
Skin	4
Parotid	2
Abdomen	2
Lung	11
Axilla	1
Maxilla	1
Groin	1
Total	65

SUMMARY AND CONCLUSIONS

In an effort to uncover early silent gastric carcinomas and determine what conditions are most likely to favor the development of gastric cancer, patients in the following clinical groups have been scrutinized and considered to be possible harborers of gastric cancer (1) patients over age 50 with achlorhydria and hypochlorhydria after administration of histamine phosphate, (2) patients with pernicious anemia, (3) relatives of patients with gastric cancer, (4) patients with unexplained hemoglobin levels below 11 0 Gm, and (5) patients with occult blood in the stools Persons falling into these groups have been studied by means of gastric roentgenograms and in some instances by gastroscopic examination

From July 1, 1945 to May 1, 1949, gastric analyses were made on 3,921 persons meeting these requirements, 569 were found to be achlorhydric after three successive doses of 0 5 mg of histamine phosphate, 259 were achlorhydric after two consecutive doses of histamine phosphate and 309 were achlorhydric after a single 0 5 mg dose of histamine phosphate An additional 203 patients were found to be hypochlorhydric, that is, they had less than 30 degrees of free hydrochloric acid in their gastric juice In this group, 1,832 gastrointestinal roentgen examinations were made Seven silent carcinomas and 32 gastric polyps were found In addition, 2 gastric carcinomas were missed through organizational errors and 1 through misinterpretation of the gastric roentgenogram

In a group of 110 achlorhydric persons obtained from a previous study by Wetherby, 168 roentgenograms were made One gastric carcinoma and 6 gastric polyps were found in this group

Ninety-four patients with pernicious anemia had 187 gastrointestinal roentgen examinations Three gastric carcinomas and 4 gastric polyps were found

Roentgen examinations were made of 81 relatives of patients with gastric carcinoma, 62 patients with unexplained hemoglobin levels below 11 0 Gm and 87 patients with occult blood in the stools No gastric neoplasms were discovered in this miscellaneous group of 217 patients

Forty-two gastric polyps were uncovered in this study of gastric cancer precursors In 11 instances the patients were operated on, and, in this group, 3 adenocarcinomas were discovered An additional 47 patients with known gastric polyps were culled from the hospital records and placed under observation In this group 20 patients were operated on, and 4 carcinomas were found The incidence of cancerous polyps in this group of 89 patients with gastric polyps under observation is thus approximately 8 per cent

In the Cancer Detection Center, 1,715 patients over age 45 have been examined In this group 20 silent carcinomas have been found, of which 1 was a gastric carcinoma This carcinoma was less than 1 cm in diameter and was confined entirely to the gastric mucosa Two other patients were found to have gastric carcinomas but on critical analysis it was felt that their symptoms, although vague, should have made one suspicious of the diagnosis, and hence they were excluded from this study Two patients with gastric polyps were also noted Rectal polyps were discovered in 194 patients, an incidence of approximately 11 per cent

It is our belief that the results obtained in both the study of gastric cancer precursors as well as at the Cancer Detection Center suggest that it is both possible and practical to survey large groups of persons in an effort to uncover early silent carcinomas

ABSTRACT OF DISCUSSION

Dr Russell H Morgan, Baltimore Dr State's work focuses attention on the early diagnosis of gastric cancer The use of the technic of gastric analysis as a preliminary screen of persons above age 50 has proved effective in the Minnesota group's hands This screening procedure, according to the statistics presented this afternoon, condenses the group on which thorough follow-up studies should be done by a factor of 3 to 1 Since most of these follow-up procedures are time-consuming, the value of this preliminary screening is evident For over a year my associates and I have been using photofluorographic roentgen films of the stomach rather than gastric analysis as a preliminary screening method at the Johns Hopkins Hospital This procedure has proved extremely simple and yet reliable One reason why we have followed this technic rather than that of gastric analysis was our concern over the patient's psychologic reaction to gastric analysis It seemed that such a procedure would be too rigorous to permit its use as a widespread public health method for the examination of large population groups I should like to ask Dr State whether or not his technic can be applied to large groups In our studies with photofluorography, we have been examining patients over age 40 However, the yield of gastric cancer in the age group between 40 and 50 so far has been extremely low An interesting finding in Dr State's study at the Cancer Detection Center is the presence of 3 silent gastric carcinomas in about 1,200 patients over age 45 Mortality statistics indicate that in this age group about 1 person in 1,200 dies from gastric cancer each year Thus it appears that the incubation period for gastric cancer approaches three years in duration and is much longer than is generally believed This fact has been borne out by the studies which we have done in Baltimore, and if further investigations bear out these data some of the present concepts regarding the development of gastric cancer will certainly require a change

Dr Alexander Brunschwig, New York The impressions frequently voiced, that achlorhydria, pernicious anemia and gastric polyposis are precancerous conditions are tested by such studies as these and in time definite answers based on factual data will be forthcoming. The point that patients are sought for examination whose family histories reveal gastric cancer is well taken. Even though the response was less satisfactory than desired and though the results of 78 gastrointestinal roentgen examinations were negative, this phase of the subject should certainly be pursued until statistically significant data are obtained. A negative result will be of importance. The whole question of mass surveys for gastric cancer must be investigated in special centers such as the one developed by the essayists at the University of Minnesota and must be carried to the final phase, namely, to answer the question of whether or not patients who have gastric cancer detected in the asymptomatic stage and who receive adequate surgical treatment have a better chance for prolonged survival than do those who receive the diagnosis after symptoms are manifested. The first impression is that they should stand a better chance for cure but this impression is by no means definitely substantiated. Studies have been made that indicate that the macroscopic type of the lesion and the extent of spread is of greater prognostic importance than duration of symptoms. It will be necessary to accumulate records of considerable numbers of patients operated on as a result of the lesion having been discovered in the asymptomatic stage and to compare the end results of these with the results obtained in cases in which operation is carried out after symptoms have led to diagnosis. While this will require considerable time the initial phases of the work have been developed, as is shown by this presentation. The argument that the effort and expense necessary to uncover asymptomatic gastric cancer in a single patient may prove so great that such surveys would be uneconomical cannot be taken seriously. There are two ways of looking at the problem. If the total expenditure of effort and money is divided by the number of positive results the figure will be high for each patient found to have cancer; however, if the total number of patients examined is considered the cost per patient will be low. If the rate of cure among the patients with asymptomatic gastric cancer who are operated on eventually proves to be appreciably higher than that obtained when operation is performed only after symptoms lead to diagnosis ways and means will be evolved to make the mass surveys economically feasible; the widespread uses of mass surveys for the detection of intrathoracic lesions is an example of this. The whole problem in regard to gastric cancer is still in the investigative stage and research in progress is always an uneconomical activity, yet this cannot be permitted to interfere with important problems in clinical investigation such as this one.

Dr. David State, Minneapolis: In answer to Dr Morgan's question concerning the practicability of this technic of gastric analysis unless the people of Minnesota differ strikingly from persons throughout this country I think it can be said that gastric analyses are well tolerated and that this examination can be done on a large number of persons in a practical manner. The silent phase of carcinoma has also intrigued us. We have attempted to study it in a little different fashion than has Dr Morgan. In our clinic there are a number of persons who have been operated on for gastric carcinoma, and because of the extent of the lesion carcinoma cells have been left in the line of resection. We have watched these persons in an effort to determine whether symptoms will reappear early or late. In the main, these patients have gone from one and a half to two years after gastric resection without symptoms even though residual carcinoma has been left in the gastric pouch. The life history of carcinoma is usually one of long duration and the silent phase accordingly is also long. In this survey of 11 persons with gastric carcinoma 7 had no lymph node metastases that could be determined either by gross or by microscopic examination. We agree with Dr Brunschwig that the prognosis in carcinoma of the stomach depends on the state or the degree of growth of the carcinoma at the time that resection is done. Of particular importance is the matter of whether or not lymph node metastasis has occurred at the time of surgical intervention. If the results of this study in determining early gastric carcinoma remain as good as they have been in the past we feel that the practical end results should be good.

AUREOMYCIN IN INFECTIOUS MONONUCLEOSIS

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Infectious mononucleosis is a disease of unknown causation, suspected of being virus in origin for which no satisfactory treatment exists at present. The observation that aureomycin may be an effective therapeutic agent in certain diseases presumed to be of virus origin (primary atypical pneumonia and psittacosis) prompted a study of its effects in infectious mononucleosis. An epidemic of this disease in the north suburbs of Chicago during the winter of 1948-1949 afforded an opportunity for a controlled study.

All cases were seen in the private practice of one of us (M H S). Preliminary diagnosis was made on the basis of clinical observations, i e fever, lymphoid swelling and inflammation of the nasopharynx, swelling of lymph nodes, headache, pain in the neck and fatigue. The diagnosis was tentatively confirmed by the finding of characteristic atypical lymphocytes in the stained blood smear.

On the first visit all patients were thoroughly examined; blood was withdrawn for white cell count, smear, heterophil agglutinins and cold agglutinins. The examining physician was furnished with two sets of capsules labeled "A" and "B." Capsules labeled "A" contained lactose colored yellow to resemble the capsules containing aureomycin[1] labeled "B." Neither the patient nor the examining physician knew the content of the capsules. The control blood samples and all subsequent blood samples were sent to the laboratory under a code number, and those of us performing the tests (V L C and W V W) did not know the identity of the patients or the medicament they received. Several specimens from patients not suffering from infectious mononucleosis were included among those submitted; none of these gave positive heterophil or cold agglutinin tests or had atypical white cells in the blood smears.

Heterophil agglutinins were determined by the method of Paul-Bunnell as modified by Davidsohn.[2] Cold agglutinins[3] were determined by the method of Turner and others[4] as modified by Smadel.[5] Blood smears were stained with Wright's stain and 300 cells were counted in estimating percentages.

Sufficient capsules for four days' treatment were furnished to each patient (total dose, 8 Gm). The patients were instructed to take two capsules (0.25 Gm each) before each meal and on retiring. In the case of children the dosage was reduced to one capsule (0.25 Gm) three or four times a day depending on age. Patients were instructed to keep a daily written record of their temperatures and to report to the office one week later. They were warned that the drug might

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Miss Collette Legris gave technical assistance in the study.

Chief of Section on Chest and Infectious Diseases, Department of Medicine, Evanston Hospital (Dr Seifert).

[1] Both the aureomycin and the placebo were furnished by the Lederle Laboratories Division, American Cyanamid Company, Pearl River, N Y.

[2] Davidsohn, I: Test for Infectious Mononucleosis, Am J Clin Path (tech supp) 2: 56 (March) 1938.

[3] Type O human red cells were furnished by the Blood Center of Michael Reese Hospital, Chicago.

[4] Turner, J C; Nisnewitz, S; Jackson, E B, and Berney, R: Relation of Cold Agglutinins to Atypical Pneumonia, Lancet 1: 765 (June 19) 1943.

[5] Smadel, J E: Serologic Reactions in Viral and Rickettsial Infections, in Rivers, T M: Viral and Rickettsial Infections of Man, Philadelphia, J B Lippincott Company, 1948, chap [illegible] p 9

produce nausea or other toxic effects and that if anything unusual occurred they were to report immediately.

On the second visit, after careful questioning and examination of the patient, a second blood sample was taken and if the patient reported no benefit from the medicament he was given a second course of treatment different from the first. That is, if he had received "A" at the first visit he was given "B," and vice versa. The patient was again seen one week later and a third blood sample taken. Additional blood samples were obtained from a majority of the patients two months after the start of medication.

RESULTS

Although a total of about 70 patients were seen during the course of the study, only 47 are suitable for analysis. In some, toxic effects prevented their taking the medicament; others failed to report for follow-up examinations. A few were discarded from the final analysis because of failure to meet the diagnostic criteria discussed hereafter. We believe, however, that most of these had infectious mononucleosis because of their symptoms and because they were members of the families of patients with proved infection.

Table 1.—*Results of Aureomycin Versus Placebo Therapy in "Confirmed" Infectious Mononucleosis*

	"Cured"	Not "Cured"	Total
Number receiving placebo	4	9	13
Number receiving aureomycin	9	12	21
Total	13	21	31

Table 2.—*Results of Aureomycin Versus Placebo Therapy in "Probable" Infectious Mononucleosis*

	"Cured"	Not "Cured"	Total
Number receiving placebo	4	10	14
Number receiving aureomycin	8	8	16
Total	12	18	30

After completion of the study, the cases were divided into two groups on the basis of the laboratory data. The first group, consisting of 26 patients, 7 male and 19 female, ranging in age from 7 to 49 years, were termed those having a "confirmed" diagnosis; that is every patient had characteristic clinical observations, a heterophil agglutination titer of 1:56 (macroscopic) or more without adsorption on lyophilized guinea pig kidney, or a titer of 1:7 or more after adsorption on lyophilized guinea pig kidney, and 5 per cent or more of the total white cells were atypical lymphocytes. The majority of the blood specimens showed heretophil titers of 1:112 or 1:256, which were not reduced by adsorption on guinea pig kidney.

The second group, consisting of 21 patients, 9 male and 12 female, ranging in age from 6 to 59 years, differed from the first group only in that the heterophil titer was less than 1:56 without adsorption on guinea pig kidney or that the heterophil antibodies were completely removed by such adsorption. It was our impression that the patients in the second group had infectious mononucleosis, and we do not subscribe to the belief of Davidsohn that there must be a positive heterophil titer after adsorption on guinea pig kidney before the diagnosis can be made. However, since this is a controversial point, and since it is possible that there may have been patients with other unrecognized diseases in the second group, we have analyzed the two groups separately.

The physical observations in the first group were fairly uniform. Six patients had enlarged, tender spleens. The initial temperatures ranged from 99 to 104.2 F., usually under 100 F. The higher temperatures were seen in the younger age groups. The initial white blood cell counts were mostly in the normal range. The highest white count observed was 15,300 cells and the lowest 3,400. Only 4 of the 26 patients had had symptoms of the disease for more than seven days, and most of them were given treatment within three days after the onset.

All patients in the first group had atypical lymphocytes in their blood smears, ranging from 5 to 43 per cent of the total leukocyte count. Nine patients had eosinophil counts of 5 per cent or more. It was our impression that a high eosinophil count was seen more frequently in those patients in whom the disease had a protracted course or in whom chronic infectious mononucleosis developed.

All the patients had positive heterophil agglutination tests. Cold hemagglutinins were demonstrated in 17 of 26 patients in the first group, and, of these, 9 had titers of 1:32 or higher, which is considered by many to be diagnostic for primary atypical pneumonia. However, none of these patients had any physical signs or symptoms referable to this disease; since positive cold hemagglutinin titers were demonstrated in these patients on several occasions during the course of their infectious mononucleosis, there exists some doubt of the specificity of that test.

Our criteria of "cure" for all patients were disappearance of fever, subsidence of nasopharyngeal inflammation and lymphoid swelling, disappearance of swollen lymph nodes and cessation of all symptoms referable to the disease, such as pain, headache and fatigue, within one week after the start of therapy without subsequent recurrence of symptoms. Table 1 shows the results in the group of patients with "confirmed" diagnoses.

It should be remarked that some patients received both the placebo and aureomycin; hence, they are included in the table twice, giving a total of 34 trials in 26 patients. From this table a value for χ^2 (chi square) may be calculated, and it is found to be 0.49. For this value of χ^2, P (probability) is about 0.48, which indicates that the observed results could have occurred by chance alone in half the trials.

The second group of 21 patients, those with equivocal or no heterophil agglutinins, appeared in all other respects to be identical with the first group. Six patients were seen after they had had symptoms for more than seven days. Three patients had some evidence of hepatitis: enlarged tender livers, and in 2 instances acholic stools. The results in the second group are shown in table 2.

Since both the placebo and the drug were given to some patients, there were 30 trials in 21 patients. In this series, χ^2 is found to be 1.43 with a P value of about 0.28, indicating that the results could have occurred by chance at least 28 per cent of the time. Only 1 patient had a cold agglutinin titer of 1:32 or over.

These results emphasize strongly the necessity for adequate controls in the evaluation of any therapeutic agent. To illustrate how one may be misled, one of the first patients who was treated happened to receive the placebo The patient made a dramatic recovery within twenty-four hours, the fever subsiding, glandular swelling and all symptoms disappearing Since the examining physician was unaware of the identity of the medicament, he concluded that the patient had received aureomycin, when infectious mononucleosis developed in his daughter shortly thereafter, he administered capsules "A" (the placebo) to her, unfortunately without such dramatic results

TOXIC EFFECTS

A total of 39 patients received aureomycin Of these, 27 (69 per cent) had disagreeable side effects (table 3) Nausea and vomiting were the most distressing symptoms, and in some instances the vomiting was projectile in character In a few patients aluminum hydroxide gel was tried but did not abolish the nausea A chance observation by 1 patient that cottage cheese suppressed the nausea led to its trial in other cases Although this was not always effective, it proved to be superior to aluminum hydroxide gel and was more acceptable to the majority of patients In a number of instances diarrhea did not develop until several days after cessation of aureomycin therapy Some patients did not have true diarrhea but noted an increased frequency of defecation with rather loose bulky stools Rectal burning and itching was noted by 9 patients No patients receiving the placebo reported any toxic symptoms, although they were warned at the initial visit that they might expect them These observations appeared to confirm our impression that the nausea and other symptoms were not psychic in origin

Table 3—*Toxic Effects of Aureomycin*

Number of cases	39
Nausea	14
Vomiting	8
Diarrhea	11
Burning of rectum	9
No symptoms	12

MISCELLANEOUS OBSERVATIONS

Although infectious mononucleosis is described as a disease of youth, it should be noted that 19 of our 47 patients were 35 years of age or older In general, the younger patients had a more acute onset and recovered more quickly Of the 8 patients with chronic recurring infection in the series, 6 were in the older age group

It was noted that positive heterophil titers and atypical lymphocytes in the smear were demonstrable after the clinical symptoms had subsided many patients had positive heterophil tests two months or longer after they were clinically "cured" In general, however, the heterophil titer and number of atypical lymphocytes declined steadily, though slowly, after symptomatic improvement occurred

In many of the stained blood smears lymphocytes of an unusual type, which differed from the generally recognized atypical cells associated with infectious mononucleosis, were observed It is believed these were small, mature lymphocytes consisting of nuclear fenestrations, which appear at first glance to be a nucleus containing multiple nucleoli or even to be atypical basophils but which on careful study are found to be multiple holes piercing the nucleus in various directions Such cells have been described by Osgood,[6] and, although he found them in relatively small numbers, were believed by him to be definitely diagnostic of infectious mononucleosis

The duration of the disease was variable In some cases it was only five to seven days, in others it was as long as eighteen months, and a few of the patients considered "cured" in the spring have experienced recurrences after an asymptomatic period of six to nine months This variability in the duration of the disease makes it imperative that any study involving the evaluation of a possible therapeutic agent be adequately controlled by the use of a placebo and prolonged observation In the present study it was observed that the range of duration of the disease was as long in the group receiving aureomycin as it was in the group receiving the placebo

COMMENT

It is obvious from the data presented that aureomycin is of no value in the treatment of infectious mononucleosis This is contrary to reports of uncontrolled studies which have appeared[7] The fact that at least 3 of the patients presented some signs of hepatitis, resembling so-called infectious hepatitis, suggests the possibility, as advanced by Berk and his associates,[8] that the etiologic agents of infectious mononucleosis and infectious hepatitis may be the same or closely related The demonstration of positive cold hemagglutinin titers in patients with infectious mononucleosis also suggests a similarity in the etiologic basis of this disease and primary atypical pneumonia Against this hypothesis is the observation that aureomycin appears to be an effective chemotherapeutic agent for primary atypical pneumonia but not for infectious mononucleosis However, further study of these three diseases from the clinical and serologic point of view would seem indicated

SUMMARY

A controlled study of 47 cases of infectious mononucleosis is presented in which the efficacy of aureomycin as compared to a placebo was examined by a "blind test" technic In a group of 26 patients in whom the clinical picture, blood smear and results of heterophil agglutination tests were considered diagnostic, the frequency of favorable response to aureomycin and to the placebo was that which would be expected by chance In a second group of 21 patients in whom the clinical picture and blood smear were considered diagnostic for infectious mononucleosis but in whom the heterophil agglutination test was equivocal or negative, similar results were obtained In the first group, 17 of 26 patients had cold agglutinin titers of 1 32 or higher without physical observations or symptoms suggesting the presence of atypical primary pneumonia thus casting some doubt on the specificity of the test

Toxic effects principally nausea, vomiting diarrhea and burning of the rectum were observed in 69 per cent of the patients receiving aureomycin It should be mentioned however, that an extensive clinical experience with aureomycin from the same source in recent months demonstrates much less toxic effect from the more highly purified product No patients receiving the placebo had side effects

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Contrary to general impression, infectious mononucleosis may occur at any age, and 19 of the 47 patients were 35 years of age or older The oldest patient was 59 and eight were under 12 years of age

The duration and severity of infectious mononucleosis are extremely variable and in order to evaluate the effectiveness of a proposed therapeutic agent in this disease it is imperative that an adequate control series be studied simultaneously

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CHOLINE CHLORIDE IN THE TREATMENT OF ONE HUNDRED PATIENTS WITH DIABETES MELLITUS

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During the twenty-six years since the discovery of insulin there have been reports of various substances which were supposed either to take the place of insulin or to ameliorate the severity of diabetes mellitus Perhaps the most recent of these substances to be used in man has been choline chloride

Experimentally Best[1] and Dragstedt[2] have shown that choline as well as insulin is a factor in the prolongation of the lives of depancreatized dogs However, I have been unable to find any reports except that of Pelner and others[3] to show that choline benefits human ings with diabetes Collens and Boas[4] expressed ir belief that choline prevents fatty infiltration of the er in man, but Joslin and co-workers[5] as well as Best and Rideout[6] were of the opinion that the fatty condition of the liver of diabetic patients is much more likely to be due to inadequate insulin therapy than to a deficient supply of lipotropic factors Biskind and Shreier[7] reported improvement in the diabetic state of many patients after the administration of large doses of vitamin B complex Pelner and associates,[3] however, considered this type of response to be due to choline present in the vitamin B complex

In 1948 Pelner and others[3] reported that choline chloride (4 Gm per day) was beneficial in 18 of 26 patients with diabetes mellitus A fall in the blood sugar level, a gain in weight and an improvement in well-being was noted in these patients In some a reduction and final elimination of the insulin dose was achieved Initial improvement appeared usually within two weeks Because of the widespread use of choline that might arise from this encouraging report,[3] it was deemed wise to study the effect of the drug on a larger group of diabetic persons

METHODS OF STUDY

In this study 100 patients ranging in age from 16 to 87 and with a history of known diabetes varying from one year or less to twenty-eight years were given 1 Gm of choline chloride four times daily (the dose used by the Pelner group[3]) All these patients were under my personal care Their diets, of course, varied according to age and caloric requirements but for the most part consisted of a mixture that could be classed as average carbohydrate, average protein and low fat No changes in diet were advised during the administration of choline except in a few cases detailed in the following results About 75 per cent of the patients in this group had severe or moderate diabetes requiring insulin, and the remainder had mild diabetes and did not require insulin The average length of time that all the patients were given choline was forty-two days

Each patient was weighed and a fasting or postprandial blood sugar level was determined before choline was administered Additional blood sugar levels were determined at weekly intervals for the duration of the experiment The patients were also weighed weekly and questioned about any symptomatic changes that might have occurred during the previous week As was to be expected, because of the frequent interviews better adherence to the prescribed diets was noted

RESULTS

In no instance did choline therapy appear to benefit persons with diabetes Fifty-four per cent of the group studied were women and 46 per cent were men The same lack of response to the drug was noted in both sexes Furthermore no gain or loss in body weight was observed in any of these patients Although 8 patients claimed that they felt generally better while taking choline than they had for a long time, objective improvement was not detected in these patients Because of this feeling of well-being, it was difficult to persuade 3 of the patients to discontinue taking choline at the conclusion of the study It was thought that a large emotional factor entered into their desire to continue choline therapy

Analysis of Data on Blood Sugar Determinations

	Number of Patients	Mean Initial Blood Sugar, Mg / 100 Cc	Mean Final Blood Sugar, Mg / 100 Cc	Difference Between the Means	Standard Error of Difference Between the Means *
Fasting group	53	151	145	—6	7 5
Postprandial group	47	182	172	—10	13.3
Entire group	100	166	158	—8	7 73
Middle aged group with diabetes of short duration †	23	151	146	—5	11 1

* The observed difference between the mean initial and the mean final value is significant if it is twice the standard error of the difference between the means

† Middle aged denotes patients aged 40 to 60 years short duration is considered four years or less

Choline did not cause a significant change in the blood sugar level of any of the groups of diabetic patients (see the accompanying table) According to accepted methods of statistical analysis,[8] the small differences noted between the mean initial blood sugar determinations and the mean final blood sugar levels occurred only by chance and were not due to the effect of choline During the experiment small adjustments of insulin dosage were made in a few patients In 11 persons a mean reduction of 5 units of insulin per day was made In 18 patients there was a mean increase of 6 units of insulin per day. These changes in dosage were considered insignificant, in that they were of the same order of magnitude as adjustments made prior to the experiment in the same group.

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Twenty-five patients with mild diabetes were fairly well controlled by diet only and did not receive insulin before being given choline. The carbohydrate in the diet of these patients was increased after they had been taking choline for a period of two weeks but concomitant with the increase in the diet there was an increase in the blood sugar level.

Seven patients with diabetes of recent origin (five months or less) were placed on a diet and given enough insulin to reduce their blood sugar determinations to normal. They also failed to respond to choline as gaged by their dietary and insulin requirements. The same lack of response to the drug was noted in 5 patients with diabetes of long standing. Two of these patients had had diabetes for over twenty-five years, 1 for twenty-three years and 2 for twenty years.

Three patients with severe diabetes in whom the blood sugar levels were always in the neighborhood of 300 mg. per hundred cubic centimeters were given choline. Each of these patients had been on a diet of free choice and had taken enough insulin so that acidosis had never developed. They were given choline but otherwise were advised to remain on the same dietary and insulin programs. No decrease in their blood sugar levels occurred at any time during the forty-two day period in which they took choline.

The condition of 1 diabetic person had never been under satisfactory control. Numerous combinations of insulin and diet failed to keep him sugar free without repeated severe insulin reactions. He was maintained best on a high protein, high carbohydrate and low fat diet with only moderate amounts of insulin, always making certain that his urine contained considerable sugar. He was given choline for forty-two days without resultant change in the severity or stability of his diabetes.

Pelner and others[3] noted that some of the patients who responded to choline had cholesterol deposits around their eyes. Because of this it was suggested that those patients with a high blood cholesterol level might respond best to the administration of choline. Six patients in this study had a high blood cholesterol level (at least 350 mg. per hundred cubic centimeters) but neither the insulin requirement nor the blood cholesterol level decreased in any of these patients after choline was given. Four other patients with cholesterol deposits about their eyes but with a normal blood cholesterol level failed to show a reduction in blood sugar or a decrease in insulin requirements.

Twenty-three patients in this study were 40 to 60 years of age and were classed as middle aged. Of this group, ten had diabetes for four years, 2 for three years, 5 for two years, 5 for one year and 1 for two months. Choline did not alter the severity of the diabetes in patients in this group (see the table). This observation is not in agreement with Pelner and associates[3] who noted that improvement was usually obtained in middle-aged persons who had been known to have diabetes for only a few years.

Toxicity to choline was noted in 9 of the 100 patients. In 1 patient a preexisting acne became severely aggravated. In 3 other patients there developed diarrhea which ceased when administration of the drug was discontinued. It was necessary to discontinue the choline therapy in 5 patients because of the development of severe edema of the lower extremities. Rapid disappearance of the edema occurred after the choline dosage was stopped. The cause of this edema was not investigated, but there was no clinical evidence of cardiorenal disease in any of the 5 patients. The occurrence of toxic reactions in this group of patients is not surprising, in that the dosage of choline chloride used was far in excess of the daily human requirement.

SUMMARY AND CONCLUSIONS

1. One hundred patients with diabetes mellitus were given choline chloride (1 Gm. four times daily) for an average of forty-two days without benefit.

2. Choline chloride (4 Gm. daily) is not without toxicity, for toxic effects developed in 9 patients (9 per cent). This indicated that the compound is probably more toxic than experimentalists or clinicians in the past have realized. Five of the 9 patients who had toxic effects manifested severe edema of the lower extremities which disappeared when the drug was discontinued. In as much as choline is frequently used in the treatment of cirrhosis of the liver, which in itself is often characterized by edema, it is possible that edema resulting from the use of choline may be overlooked in many cirrhotic patients.

622 Pine Avenue.

Clinical Notes, Suggestions and New Instruments

SENSITIVITY REACTIONS TO AUREOMYCIN

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Since the isolation of aureomycin from Streptomyces aureofaciens was described by Duggar[1] numerous reports of its experimental and clinical trial have appeared in the literature. Aureomycin has been shown to be effective against a great number of gram-negative and gram positive organisms, but its greatest promise is being shown against rickettsial and virus infections. Finland, Collins and Paine[2] summarized the treatment of 100 cases of bacterial infections with aureomycin. The treatment period ranged between one and thirty-one days and from 1 to 39 Gm. total dosage of aureomycin was given during that time. Toxic effects were minimal and infrequent. The commonest complaint when large oral doses were given was frequent loose stools but true diarrhea was uncommon. Nausea and vomiting occasionally occurred. Finland and his associates did not observe any cutaneous eruptions ascribable to aureomycin.

Lennette and his associates[3] treated 23 patients having Q fever with aureomycin. They made the following statement: "One patient complained of pruritus and soreness of the scrotum and of soreness of the mouth. Both organs appeared inflamed. A second patient had similar complaints referable to the scrotum and also developed a small number of pruritic papular lesions over the shoulders. In both instances the drug was continued and symptoms did not become increasingly troublesome. Meikle

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From the Dermatologic Service of Mount Sinai Hospital.

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john and Shragg[4] used aureomycin in the treatment of 22 patients with primary atypical pneumonia They stated "In 1 patient cheilitis and a smoothness of the tongue were noted four days after aureomycin therapy was begun" Aside from the latter statement, we could find no report of drug eruptions due to aureomycin in the literature We believe that the 3 case reports which follow represent instances of eruptions due to the oral administration of aureomycin

REPORT OF CASES

CASE 1—H P, a white housewife, aged 43, has had dermatitis herpetiformis (Duhring) for a period of four years She was hospitalized on the dermatologic service of Mount Sinai Hospital on two occasions Her first admission was on Jan 4, 1949 She presented at that time grouped papulovesicular lesions on the face, trunk and extremities There was a tendency to confluence into large patches in some areas as well as some oozing and crusting The patient complained of severe pruritus and burning sensations The hemogram was normal except for eosinophilia (10 per cent) Serologic reactions to the Wassermann and Kahn tests were negative The urine was normal An iodide patch test gave negative results The patient was started on 0 5 Gm sulfapyridine twice daily After about three weeks, the pruritus and the cutaneous eruption subsided and she was discharged from the hospital After hospitalization there was a recurrence of the dermatitis in spite of a maintenance dose of sulfapyridine Sodium cacodylate, a sulfonamide mixture and nicotinic acid were successively tried without benefit

On March 29, 1949 the patient was readmitted to Mount Sinai Hospital At this time, the blood showed eosinophilia (28 per cent) and the cutaneous eruption was as severe and extensive as it had been on her first admission to the hospital Because of the recent reports of the effectiveness of aureomycin against virus infections and a wide range of micro organisms, it was decided to give her aureomycin orally

On April 7, 1949 the administration of 250 mg of aureomycin four times a day was started In one week decided improvement of the eruption was noted and the eosinophil count had dropped to 16 per cent By April 27, 1949 almost complete clearing of lesions had resulted and the eosinophil count of the blood was reduced to 7 per cent However, for the first time an acute generalized urticaria developed The administration of aureomycin was stopped, and in three days' time the urticaria subsided

A patch test with aureomycin powder was negative after forty-eight hours A scratch test with aureomycin powder and saline solution was negative for immediate reactions An intradermal test of 0 1 cc of the intravenous aureomycin solution (Lederle) was also negative after forty-eight hours Routine intradermal tests using standard allergens of pollens and foods gave no reactions

An attempt was then made to desensitize the patient to aureomycin by oral administration of the drug in a manner comparable to that found effective in cases of penicillin sensitivity[5] On May 5, 1949 aureomycin (2 5 mg) was given by mouth On May 6 a dose of 2 5 mg was given twice The dose was then increased to 7 5 mg daily No reaction was noted until May 10, at which time a few wheals were noted on her arm The dose of 7 5 mg daily was maintained in spite of moderate urticaria until May 14, when it had to be stopped because of severe diarrhea On May 23, 1949 a 2 5 mg dose of aureomycin was given orally and again elicited urticarial lesions

CASE 2—M P, a white woman aged 62, had had dermatitis herpetiformis for the past year and a half She had been under our observation for approximately one year When first seen, she presented generalized bullae and vesicles on an erythematous base There were numerous excoriations and denuded areas at sites of former bullae The eruption was associated with decided pruritus and burning sensations By alternating courses of sulfonamide drugs and carbarsone, the condition of the patient was kept under fairly good control and pruritus was reduced to a minimum She apparently became resistant to the drugs which had been efficacious previously, and there was an exacerbation of her eruption Aureomycin, 250 mg orally four times a day, was then started on March 25, 1949 In about ten days pronounced clinical improvement was noted Aureomycin therapy was continued until May 3, 1949, at which time erythema-multiforme-like lesions were noted around the sites of old healed areas The new eruption consisted of annular, ⅞ inch (2 2 cm) lesions with firm, erythematous raised borders and clear depressed centers Lesions of this type had not previously been observed Aureomycin was discontinued, and the erythema-multiforme-like eruption disappeared.

A patch test with aureomycin powder was negative after forty-eight hours A scratch test with aureomycin powder and saline solution was negative for immediate reactions An intradermal test of 0 1 cc of the intravenous aureomycin solution was also negative after forty-eight hours

Two weeks later, readministration of aureomycin in doses of 25 mg three times a day produced urticarial lesions after several days The erythema-multiforme-like eruption did not recur

CASE 3—W K, a man aged 59, was operated on at Mount Sinai Hospital Jan 6, 1949 After the operation the suprapubic wound continued to drain urine, and it was believed that a benign prostatic hypertrophy was obstructing the bladder neck and delaying healing He was discharged about a month later and progressed fairly well until chills and fever developed This was interpreted as pyelonephritis, and the patient was given chemotherapy He reentered the hospital for a suprapubic prostatectomy, which was performed March 23, 1949 On March 19, four days before the operation, aureomycin 250 mg daily was ordered This dose was increased on March 23 to 250 mg three times a day On March 27 a skin eruption in the groin and on the scrotum was observed and was of the type usually associated with penicillin sensitivity There was a sharply circumscribed area of redness, edema and vesicles involving the groin and extending over to the scrotum Aureomycin therapy was discontinued, and under wet dressings the eruption gradually subsided

A patch test with aureomycin powder was negative after forty-eight hours A scratch test with aureomycin powder and saline solution was negative for immediate reactions An intradermal test of 0 1 cc of the intravenous aureomycin solution was also negative after forty-eight hours

Treatment with dihydrostreptomycin, 0 5 Gm every twelve hours, was started on March 31 The eruption continued to improve in spite of the continuation of the streptomycin dosage He also received penicillin dust inhalations on March 31 for postnasal drip A herpetic eruption developed on the right half of the soft palate, but there was no flare-up of the lesions in the groin

There was evidently only circumstantial evidence for a diagnosis of aureomycin sensitivity In July 1949 the patient was discharged from the hospital Some time later, he took four capsules of aureomycin, each containing 250 mg, and shortly thereafter had a recurrence of the eruption on the scrotum and the groin Simultaneously, a sore throat and a rise in temperature occurred The eruption lasted for two weeks Reelicitation of the eruption after the ingestion of the aureomycin constitutes a definite proof for his aureomycin sensitivity

SUMMARY

Three patients with allergic skin eruptions due to aureomycin are reported One eruption was urticarial in type The second presented an erythema-multiforme-like eruption and urticaria, the third was an eczematoid eruption in the groin and on the scrotum of the type usually seen after administration of penicillin Scratch and intradermal tests as well as patch tests with aureomycin failed to elicit a positive reaction Reelicitation of

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the eruption in each instance on administration of aureomycin was evidence that the patients were sensitive to the aureomycin Apparently the skin eruptions which occur after administration of aureomycin follow the pattern of most drug eruptions, in that they are nearly always associated with negative skin tests to the responsible drug

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ACUTE PANCREATITIS IN PREGNANCY

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and
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Acute pancreatitis is thought to be a condition due to the effect of activated ferments on the tissue of the pancreas There are two different types af acute pancreatitis one accompanied with necrosis and hemorrhage and the other designated as acute interstitial (nonhemorrhagic) pancreatitis The pathologic changes are quite different.

In acute interstitial pancreatitis the pancreas appears enlarged firm edematous and whiter than normal Microscopically there is edema of interstitial tissue of the pancreas and peripancreatic tissues There may be some infiltration by neutrophilic leukocytes, and occasionally small areas of fat necrosis are present In acute hemorrhagic pancreatitis the pancreas is enlarged and firm, with softer friable areas of necrosis Various degrees of hemorrhagic and gangrenous changes may involve portions of the pancreas or the whole organ Areas of fat necrosis affect the fat of the pancreas, mesentery and omentum The necrotic areas of fatty tissue are surrounded by a zone of hyperemia and leukocytes The tissue is edematous and infiltrated with erythrocytes but relatively few leukocytes Blood vessels may show necrosis of their walls and thrombi in their lumen

A review of the standard textbooks and of the current literature fails to reveal a discussion of acute pancreatitis as a complication of pregnancy This dearth of information regarding the condition is puzzling when one considers the theories of the causation of the disease. The commonly accepted etiologic mechanism[1] is blocking of the pancreatic duct by hyperplasia stone in a common biliary duct or pressure from without as might be expected by a tumor or enlarged nodes If this etiologic theory is valid, the incidence of acute pancreatitis should be much increased during pregnancy because the gravid uterus could, by direct or indirect pressure produce the blocking mechanism

The diagnosis of acute nonhemorrhagic pancreatitis is made on the basis of some type of abdominal discomfort nausea and vomiting accompanied with high levels of diastase in blood and urine. The diagnosis is being made with greater frequency because of the availability of a simple, accurate and rapid method developed by Somogyi[2] for the determination of blood diastase Elman[3] reported a series of 65 cases of acute pancreatitis in five years at the St Louis City Hospital The incidence will probably continue to increase as this simple method of diastase determination is more generally accepted

REPORT OF CASE

History—Mrs V H, a white primigravida aged 17 was admitted to the Jewish Hospital Aug 31 1948 because of acute abdominal pain The expected date of confinement was October 12 The past history was entirely irrelevant Gestation was unrelated to the onset of the present illness Three days prior to admission to the hospital the patient noted pain in the left epigastrium left lower anterior portion of the chest and left upper quadrant of the abdomen with radiation around to the left scapula The pain was gradual in onset and was aggravated by deep inspiration She vomited once on the day of onset of illness and noted temperature of 101 F Since then she had had anorexia and occasional loose stools On entry to the hospital the temperature was 100 4 F the pulse rate 104 and the respiratory rate 22 The blood pressure was 120 systolic and 60 diastolic.

Physical Observations—The uterus was consistent in size with the stated gestation. The abdomen was somewhat tense throughout but not definitely tender Slight diminution of sounds in the left side of the chest was noted. Respirations were shallow with complaint of pain on the left side during deep inspiration The physical condition was otherwise essentially normal

Laboratory Data—On the day after admission the white blood cell count was 6 400 with a normal differential hemoglobin 11 7 Gm (Haden-Hausser) and a corrected sedimentation rate of 44 mm per hour (Wintrobe) The urine had a faint trace of albumin 3 plus acetone, 4 plus diactic acid, 3 plus urobilinogen and an occasional white blood cell Fasting blood sugar was 79 mg and nonprotein nitrogen 15 mg per hundred cubic centimeters Blood diastase measured 448 units (normal 80 to 150), urine diastase was 4 033 units (normal 160 to 300) The icterus index was 4 reaction of the blood to the Kahn test was negative. Roentgen examination of the chest revealed essentially normal conditions

Because of the blood diastase level of 448 units and the urinary diastase level of 4,033 units (about ten times the value for blood diastase), a diagnosis of acute interstitial pancreatitis was made

Treatment—The treatment in acute pancreatitis is supportive Opiates are used for the relief of pain in severe cases In mild cases the use of antispasmodic agents such as atropine glyceryl trinitrate and diphenylacetyl diethylaminoethanol hydrochloride (trasentine hydrochloride[3]) have been used successfully Patients with vomiting are treated freely with fluids, electrolytes and dextrose If the patient is able to take food by mouth a low fat bland diet is used In this case the patient was treated with opiates, intravenous administration of a 10 per cent dextrose solution for the first twenty-four hours and then with a low fat bland diet. The discomfort receded quickly and the blood diastase level returned to 76 units a normal figure

Posthospital Course—The patient was discharged from the hospital and was followed in the clinic She remained completely asymptomatic at weekly observations for the next six weeks On October 15 she entered the hospital in active labor and after eleven and one half hours of normal labor delivered a normal male infant spontaneously over a right medial lateral episiotomy The postpartum course was uneventful On the second day postpartum after oral ingestion of a radiopaque contrast medium a series of roentgenograms of the gallbladder was reported as revealing a functioning gallbladder with no evidence of calculus The patient has been followed for six months as an outpatient and has remained completely asymptomatic except for one episode of abdominal pain with a normal diastase level

COMMENT

The diagnosis of acute pancreatitis cannot be made by clinical means alone Were it not for the almost routine examination of blood diastase as practiced at this hospital the diagnosis of acute pancreatitis would not have been made in this case

The method for determination of diastase as advised by Somogyi is based on the amyloclastic property of diastase The test can be performed within fifteen minutes uses only 0 5 cc of serum or plasma and requires no extensive skill or apparatus By the use of a constant predetermined factor for each time unit of incubation the quantity of starch splitting enzyme can be calculated instantly

If this test for blood diastase and urine diastase were applied more routinely and if the theory regarding the etiologic basis of acute pancreatitis namely pressure within or on the pancreatic duct is valid this diagnosis should be made more frequently during pregnancy This applies especially to the patients in whom a diagnosis of cholecystitis with or without cholelithiasis has been made clinically and in whom pancreatitis has not been suspected

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From the Departments of Obstetrics and Gynecology and of Medicine and from the Laboratory of the Jewish Hospital

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SUMMARY

A case of acute pancreatitis in pregnancy is presented with brief discussion of the etiologic mechanism of pancreatitis and its rarely reported incidence in pregnancy Routine diastase determinations might lead to more frequent diagnosis of this condition during pregnancy

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DIPHENHYDRAMINE (BENADRYL®) FOR NOCTURNAL LEG CRAMPS

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Nocturnal cramps in the legs are a common symptom The usual history is that of a severe contraction of the muscles of the calves awakening the patient The cramp sometimes affects the thigh or foot instead of the calf The symptom ranges from a mild contraction of the muscle to extreme spasm that may give agonizing pain The cause of nocturnal cramps is not known The symptom is not primarily circulatory, often occurring in patients without disease of the arteries or veins A history of low backaches is common in patients with nocturnal cramps

This condition in the extremities can usually be prevented by administration of quinine or quinidine sulfate (0 2 or 0 3 Gm) at bedtime[1] Failure of a patient with severe nocturnal leg cramps to respond to quinidine sulfate therapy led me to give him diphenhydramine hydrochloride (benadryl hydrochloride®) 50 mg at bedtime with complete prevention of his cramps since March 14, 1949 when the first capsule was administered He had previously had no relief from symptoms for a period of seventeen months while taking a variety of drugs in addition to quinidine The idea of using diphenhydramine for relief of leg cramps was suggested by the use of this drug for parkinsonism with improvement in muscle rigidity[2] The relief of the first patient led us to give diphenhydramine hydrochloride (50 mg) at bedtime to 16 additional patients with severe nocturnal cramps in the legs All 16 reported complete freedom from cramps after diphenhydramine therapy was started

Although nocturnal leg cramps can usually be prevented by quinine or quinidine sulfate both of which I have used successfully in more than 100 patients, diphenhydramine has some advantages in certain groups of patients For example, perhaps 50 per cent of women who are pregnant complain of leg cramps, which are at times severe Obstetricians may hesitate to prescribe quinine for relief of leg cramps in pregnancy, whereas diphenhydramine is commonly administered antepartum for allergic conditions Furthermore, in my first patient quinidine did not prevent the cramps whereas diphenhydramine did

REPORT OF CASES

CASE 1 —L M , a man aged 62 was seen in January 1948 because of severe cramps in the legs and thighs at night, so that he had been unable to sleep for the past three months He also gave a past history of intermittent claudication since 1943 because of arteriosclerotic occlusion of the left popliteal artery The claudication had improved so that he was able to walk five blocks, and his chief complaint in 1948 was the intense leg cramps at night Quinidine sulfate 0 3 Gm was prescribed to be taken at bedtime He obtained no relief from the quinidine He was seen several times a month during 1948 because of continued severe nocturnal leg cramps, for which he required morphine sedation at times In addition to the quinidine sulfate, the following drugs were given in futile attempts to prevent this cramp sodium chloride, calcium, thiamine chloride, priscoline® (2-benzyl-4,5-imidazoline hydrochloride) and acetylsalicylic acid and phenobarbital The cramp would begin about 6 o'clock in the morning just before the patient awoke, on one occasion it was suggested that he set an alarm clock at 5 o'clock and take another dose of quinidine sulfate This also failed to prevent the cramp He was then given a capsule of 50 mg of diphenhydramine hydrochloride at bedtime, and since he took the first dose of this drug March 14, 1949, he has not had a cramp He has continued taking diphenhydramine each night because of his fear that the cramps may otherwise return

CASE 2 —D M , a woman aged 58, in June 1949 had severe cramps in the right leg which had persisted for many months, awakening her once or twice a night Examination disclosed dilated veins of the right leg with incompetence of the long saphenous vein There was mild dermatitis of the lower half of the right leg Arterial circulation was normal Diphenhydramine hydrochloride, 50 mg at bedtime, was prescribed She was not seen again until August, when she stated that she had not had cramps while taking diphenhydramine but that after she exhausted her supply of the drug a week previously the severe cramps had returned Diphenhydramine was prescribed, and again the patient obtained relief from the cramps

CASE 3 —D B , a woman aged 65, had a history of nocturnal leg cramps for several years For a month the cramps in the calves and thighs had been extremely severe, and for a week these had occurred every night at 2 to 3 o'clock The cramps awakened her, and the pain was so severe that she would scream, members of her family would rub the legs with alcohol and apply heat She also had a history of severe low backaches for almost six years, for which she was in bed at one time for four weeks The examination disclosed no abnormality of the blood vessels, other than signs of a past phlebitis, which had occurred in the left leg a year previously There was decided tenderness over the midlumbar vertebra Diphenhydramine hydrochloride, 50 mg to be taken each night, was prescribed and she had no cramps after administration of the first dose Three weeks later she stopped taking diphenhydramine A mild cramping sensation returned, but this bothered her so little that she did not consider it necessary to resume diphenhydramine therapy

COMMENT

A total of 17 patients with severe leg cramps at night were treated with diphenhydramine, with prevention of the cramp in all patients As Moss and Herrmann[1] pointed out with regard to the use of quinine for leg cramps, it is not always easy to evaluate the effect of a drug in nocturnal cramps because some patients have them at irregular intervals The difficulty is indicated by the fact that several patients stopped taking diphenhydramine after two or three weeks and the cramps did not return However, some of the patients treated with the drug had had these cramps consistently every night for weeks or months The prompt relief after they took the first capsule suggests that the medicament was responsible Also, when some patients discontinued diphenhydramine therapy after obtaining relief, the cramp returned and was again prevented by use of the drug The number of observations made and the prompt cessation of cramps in all patients after the start of diphenhydramine therapy indicate that this drug is effective against nocturnal cramps A desirable action of the compound is the drowsiness that develops in so many patients who take it Since these cramps occur at night, the drug has the advantage of helping the patient to sleep However, drugs that produce sedation only, without having the other properties of diphenhydramine hydrochloride, do not prevent nocturnal cramps The mechanism by which the drug relieves this condition is not known

SUMMARY

Diphenhydramine hydrochloride (benadryl hydrochloride®) was used in 17 patients with nocturnal cramps in the legs, with prevention of the cramp in all cases In the first patient treated, quinidine sulfate had given no relief but diphenhydramine hydrochloride was wholly successful In some patients the cramps failed to return after the drug was discontinued In others, renewed diphenhydramine therapy relieved the cramps after discontinuance of the drug had resulted in return of the symptom Conditions in which diphenhydramine therapy would be preferable to the use of quinine or quinidine for relief of leg cramps are discussed

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From the Peripheral Vascular Section of the Edward B Robinette Foundation Medical Clinic Hospital of the University of Pennsylvania

[1] Moss H K, and Herrmann L G Use of Quinine for the Relief of "Night Cramps" in the Extremities J A M A **115** 1358 1359 (Oct 19) 1940

[2] Budnitz J The Use of Benadryl in Parkinson's Disease New England J Med **238** 874 875 (June 17) 1948 Ryan G M S and Wood J S Benadryl in the Treatment of Parkinsonism Lancet **1** 258 259 (Feb 12) 1949

FIXED DRUG ERUPTION FROM TETRAETHYLTHIURAM DISULFIDE (ANTABUSE)

HENRY M LEWIS M D
and
HAROLD H BREMERS M D
Denver

In 1948 Hald, Jacobsen and Larsen[1] demonstrated that persons who had ingested tetraethylthiuram disulfide (antabuse) suffered a disagreeable reaction to the subsequent consumption of alcohol The treatment of chronic alcoholism with this drug has since been shown to have definite value,[2] and because it may attain widespread employment we believe that the report of a cutaneous reaction to this form of medication is of interest.

The pharmacology of tetraethylthiuram disulfide has been recently reviewed and will not be considered here.[1] When alcohol is ingested twelve hours after the intake of this drug there occurs after about ten minutes, an intense erythema of the face, neck, upper part of the chest and arms, accompanied with decided injection of the scleras A pronounced tachypnea, tachycardia and a moderate fall in blood pressure occur in the characteristic reaction Subjectively pulsating headache, palpitation dyspnea a sensation of constriction of the neck and an intense hangover" are noted. In a more pronounced reaction, a precipitous fall in blood pressure associated with nausea and vomiting takes place.

REPORT OF CASE

The patient was a white male bartender aged 52 in good health His past history was noncontributory except for the ingestion of 4/5 quart (757 cc.) of whisky daily for more than ten years" Complete physical examination revealed essentially normal conditions Serologic tests for syphilis renal and hepatic function tests complete blood count, urinalysis electrocardiograms and examination of the spinal fluid revealed normal values There was no history of previous drug eruption

Tetraethylthiuram disulfide was administered in the following manner July 15, 1949, 2.0 Gm , July 16 1 5 Gm , July 17, 1 0 Gm, and July 18 to 23 0 75 Gm daily A test dose of 45 0 cc. of 80 proof whisky (18 0 cc alcohol) was administered orally July 18. About ten minutes later a moderate erythema of the face, neck, chest and arms with vasodilatation of the scleral vessels was observed, and the patient complained of headache, palpitation and shortness of breath followed by a hangover ' Two days later he noted intense pruritus of the thighs and of the gluteal, inguinal scrotal, lower abdominal axillary and cervical regions Examination at this time revealed pronounced erythema with numerous excoriations in the pruritic areas The redness was particularly intense in a beltlike distribution encircling the abdomen. There was a large patch of central clearing and peripheral erythema in each gluteal area. The eruption cleared gradually, and no lesions were visible on July 28 Topical therapy relieved the pruritus somewhat, but the underlying eruption appeared to be unaffected

After complete clearing of the eruption tetraethylthiuram disulfide was readministered as follows July 29 1 0 Gm., July 30, 1 0 Gm., and July 31 to August 6 0 75 Gm daily Forty-five cubic centimeters of 80 proof whisky was ingested on August 4 The characteristic reaction to tetraethylthiuram disulfide plus alcohol ensued Two days later a recurrence of the aforementioned eruption appeared in identical sites Medication was discontinued, and the eruption subsided in three days

The patient was lost from observation until Oct. 7 1949 but stated that from August 24 to October 7 he had again ingested 4/5 quart of whisky daily but no eruption had appeared For one week following rehospitalization no medication was given. Tetraethylthiuram disulfide was then administered as follows October 15 2 0 Gm., October 16, 1.5 Gm October 17, 1 0 Gm., and October 18 1 0 Gm On October 18 and again on October 21, 45 cc of 80 proof whisky was given The typical disagreeable reaction followed the administration of whisky on both occasions, but recurrence of the eruption did not take place until October 22 Again, as on two previous occasions the cutaneous manifestations were identical in site and morphologic detail The eruption subsided completely, without therapy, in four days

The recurrence of the cutaneous manifestations, in identical sites, elicited by the administration of tetraethylthiuram disulfide plus alcohol establishes this case as a fixed drug eruption It is of interest to note that the eruption did not occur following the administration of either alcohol or tetraethylthiuram disulfide alone, and we are therefore of the opinion that a reactive product of the two substances combined is the etiologic factor

Data on Reactions to Tetraethylthiuram Disulfide plus Alcohol

Date 1949	T T D* (Gm)	80 Proof Whisky (Cc.)	T T D* plus Alcohol Reaction	Drug Eruption
7/15	2 00			
7/16	1.50			
7/17	1 00			
7/18	0 75	45 0	mild	
7/19	0.75			
7/20	0 75			++++
7/21	0 75			++++
7/22	0 75			+++
7/23	0 75			+++
7/24				+++
7/25				++
7/26				+
7/27				−
7/28				
7/29	1 00			
7/30	1 00			
7/31	0 75			
8/1	0 75			
8/2	0 75			
8/3	0 75			
8/4	0 75	45 0	moderately severe	
8/5	0 75			
8/6	0 75			+++
8/7				++
8/8				−
8/9				
8/10 to 8/24				
8/24 to 10/6		757 0		
10/7 to 10/14..				
10/15	2.00			
10/16	1.50			
10/17	1 00			
10/18	1 00	45 0	moderate	
10/19				
10/20				
10/21		45 0	moderate	
10/22				++++
10/23				+++
10/24				++
10/25				−

* T T D indicates tetraethylthiuram disulfide

Inasmuch as it is believed that the disagreeable effect produced by the combination of the two agents is caused by a decided increase in the blood level of acetaldehyde[3] we assume that acetaldehyde is responsible for this fixed drug eruption

We do not believe that the described eruption constitutes a contraindication to the employment of tetraethylthiuram disulfide in otherwise suitable candidates for therapy

SUMMARY

A fixed drug eruption following the sequence tetraethylthiuram disulfide plus alcohol is reported It is probable that this eruption is elicited by a product of the combination of the two drugs in vivo

2200 East Eighteenth Avenue.

From the Department of Dermatology University of Colorado School of Medicine.

[1] Hald J Jacobsen E and Larsen V Sensitizing Effect of Tetraethylthiuramdisulfide (Antabuse) to Ethyl Alcohol Acta pharmacol et toxicol 4 285 (Dec.) 1948

[2] Jacobsen E. and Martensen Larsen O Treatment of Alcoholism with Tetraethylthiuram Disulfide (Antabus) J A M A 139 918 (April 2) 1949

[3] Hald J and Jacobsen E. Formation of Acetaldehyde in the Organism after Ingestion of Antabuse and Alcohol Acta pharmacol et toxicol 4 305 (Dec.) 1948

Council on Foods and Nutrition

REPORT OF THE COUNCIL

Since 1933 the Council on Foods and Nutrition has accepted fresh milk fortified with vitamin D Because of the apparent lack of understanding concerning the significance of the seal of acceptance when it appears on vitamin D milk, the publication of the following statement has been authorized

In addition to fresh milk the Council also accepts, at the present time, whole powdered milk and evaporated milk which are fortified with vitamin D

James R Wilson, M D, *Secretary*

THE VITAMIN D MILK PROGRAM OF THE COUNCIL ON FOODS AND NUTRITION OF THE AMERICAN MEDICAL ASSOCIATION

To encourage the wider use of milk containing vitamin D as an important public health measure and to stimulate the production of a vitamin D milk which contains 400 U S P units of vitamin D per quart, the Council on Foods and Nutrition accepts pasteurized milk which conforms to the rules and regulations established by the Council All foods which the Council considers for acceptance are submitted voluntarily When the Council grants the use of its seal, it is always without charge or obligation

The acceptance of a vitamin D milk is intended to signify that the milk is fortified with 400 U S P units of vitamin D per quart (the Council recognizes no difference in the efficacy of vitamins D_2 and D_3 when used in this amount), that its bottle closure or paper carton accurately states the kind and amount of vitamin D added and that nutritional claims for it are consistent with established knowledge or the best authoritative opinion The producer of a Council-accepted vitamin D milk may display the seal of acceptance of the Council on Foods and Nutrition on his bottle closure or paper carton and on advertising which conforms to Council rules The seal must be displayed so that it applies only to the accepted product and not to other unaccepted dairy products or to the dairy itself The seal is not a recommendation nor is it a certificate or guarantee of purity At least two vitamin D bioassays on surprise specimens are required for each accepted product each year These are performed by reputable independent laboratories Failure to comply with any requirement of the Council is sufficient cause for the withdrawal of acceptance

The Council gives its full support to the work of all official enforcement agencies which have as their object the production of wholesome milk, it is the responsibility of these agencies to see that all milk intended for human consumption conforms to the applicable sanitary codes The Council does not recognize unpasteurized milk as being suitable for acceptance

Participation in this program lends active support to an important public health movement designed to reduce the incidence of rickets in babies and to assist in the normal growth of children and in the maintenance of adult health

REPORT OF THE COUNCIL

The following statement has been accepted by the Council

James R Wilson, M D, *Secretary*

"WE SELL MORE" TYPE OF ADVERTISING

The Council believes that acceptable food advertising should be educational and should not make improper comparisons between foods, it should attempt to promote sales on the merits of the food article itself Quantity of sales or sales position of a product do not constitute evidence as to the nutritional quality of a product, but may be so interpreted by the public Advertising claims of greater sales of one brand over those of competitive products are inconsistent with the Council's concept of acceptable food advertising

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council

James R Wilson, M D, *Secretary*

The Gerber Products Company, Fremont Mich

Gerber s Junior Soup—Vegetables and Bacon consists of chopped carrots, chopped potatoes chopped bacon, rice chopped green beans, rice flour, salt dried yeast, celery powder and onion powder

Analysis (submitted by manufacturer) —Total solids 15 00% moisture 85 00%, ash 1 19%, fat (ether extract) 2 46% protein (N × 6 25) 1 23%, crude fiber 0 35% carbohydrates other than crude fiber (by difference) 9 77%

Calories —0 66 per gram, 18 85 per ounce.

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	2133 U S P Units
Thiamine	0 076 mg
Riboflavin	0 046 mg
Ascorbic acid	1 53 mg
Niacin	0 61 mg
Calcium	14 3 mg
Phosphorus	25 7 mg
Iron	0 51 mg

Use —For use in the feeding of older infants and young children

Gerber's Junior Applesauce consists of apples and sugar

Analysis (submitted by manufacturer) —Total solids 14 37% moisture 85 63%, ash 0 16%, fat (ether extract) 0 12%, protein (N ×6 25) 0 13%, crude fiber 0 57% carbohydrates other than crude fiber (by difference) 13 39%

Calories —0 55 per gram, 15 63 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	25 U S P Units
Thiamine	0 008 mg
Riboflavin	0 011 mg
Ascorbic acid	1 34 mg
Niacin	0 064 mg
Calcium	4 5 mg
Phosphorus	5 0 mg
Iron	0 76 mg

Use —For use in the feeding of older infants and young children

Gerber s Junior Foods—Apricot Applesauce consists of prepared apricots with approximately 45% chopped apples and 8 5% sugar with sufficient water to prepare properly

Analysis (submitted by manufacturer) —Total solids 16 95%, moisture 83 05%, ash 0 28%, fat (ether extract) 0 17%, protein (N × 6 25) 0 45% crude fiber 0 48%, carbohydrates other than crude fiber (by difference) 15 57%

Calories —0 66 per gram, 18 77 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	1683 U S P Units
Thiamine	0 017 mg
Riboflavin	0 014 mg
Ascorbic acid	1 02 mg
Niacin	0 32 mg
Calcium	5 0 mg
Phosphorus	8 4 mg
Iron	0 91 mg

Use —For use in the feeding of older infants and young children

Gerber's Junior Foods—Chopped Peaches consists of chopped peaches with approximately 5% sugar in sufficient water to prepare properly

Analysis (submitted by manufacturer) —Total solids 15 12%, moisture 84 88%, ash 0 39%, fat (ether extract) 0 13%, protein (N × 6 25) 0 52% crude fiber 0 52%, carbohydrates other than crude fiber (by difference) 13 74%

Calories —0 58 per gram, 16 50 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	466 U S P Units
Thiamine	0 011 mg
Riboflavin	0 027 mg
Ascorbic acid	0 78 mg
Niacin	0 93 mg
Calcium	2 8 mg
Phosphorus	18 1 mg
Iron	0 24 mg

Use —For use in the feeding of older infants and young children

Gerber's Junior Pears and Pineapple consists of pears, pineapple and sugar

Analysis (submitted by manufacturer) —Total solids 18 11%, moisture 81 89%, ash 0 26%, fat (ether extract) 0 16% protein (N × 6 25) 0 36%, crude fiber 1 14% carbohydrates other than crude fiber (by difference) 16 19%

Calories —0 68 per gram, 19 33 per ounce

Vitamins and Minerals	*Per Hundred Grams*
Vitamin A	35 U S P Units
Thiamine	0 027 mg
Riboflavin	0 013 mg
Ascorbic acid	0 63 mg
Niacin	0 20 mg
Calcium	9 0 mg
Phosphorus	10 4 mg
Iron	0 69 mg

Use —For use in the feeding of older infants and young children

APPROVED INTERNSHIPS AND RESIDENCIES IN THE UNITED STATES

ANNUAL REPORT ON INTERNSHIPS AND RESIDENCIES BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Edward H. Leveroos, M.D., William R. Albus, M.D., William W. Corbett, M.D., and William W. Southard, M.D.

In this issue the Council on Medical Education and Hospitals presents its annual report on graduate training. The official list of intern and residency programs includes data regarding hospitals approved as of April 1, 1950. Lists of additional programs approved will be published from time to time in subsequent issues of The Journal, including the Educational Number scheduled for publication Sept. 9, 1950.

Hospitals approved for intern training are listed by states together with data concerning the type of ownership or control, bed capacity, number of annual admissions, type of internship, length of service, number of positions offered by the hospital, affiliated assignments, outpatient service, autopsy rate and monthly stipend. It has been considered advisable to delete the column "Percentage of Service Cases" appearing in previous reports because of the difficulty in establishing a uniform basis for reporting this statistic; the type of control will ordinarily give sufficient information in this regard. Hospitals used as major teaching units or for limited assignments by junior or senior clerks have been identified with the medical schools with which they are affiliated. A resume of the data appearing in the approval list is given in the textual material which follows.

Approved residencies are listed by states under each specialty and subspecialty. Information presented for each approved program includes the name of the chief of service as reported by the hospital, statistical data for the service, the total number of assistant residencies and residencies offered annually and the monthly stipend. In the following specialties the program is listed as approved for a specified number of years: dermatology, neurologic surgery, neurology, obstetrics and gynecology, orthopedic surgery, pathology, pediatrics, psychiatry, surgery and urology. In these specialties, the American board concerned has indicated that it will give credit for the number of years listed in qualifying for its examination.

In a number of specialties, approval has been extended without designating the number of years for which the program is accredited. In these specialties the residents' training will be evaluated by the American board concerned on an individual basis unless otherwise indicated. The length of the training program for which approval is extended in the medical subspecialties is ordinarily limited to one year.

The Council now extends official approval for residency training in concurrence with the following boards:

American Board of Anesthesiology
American Board of Dermatology and Syphilology
American Board of Internal Medicine
American Board of Neurological Surgery
American Board of Obstetrics and Gynecology
American Board of Orthopedic Surgery
American Board of Otolaryngology
American Board of Pathology
American Board of Pediatrics
American Board of Physical Medicine
American Board of Plastic Surgery
American Board of Proctology
American Board of Psychiatry and Neurology
American Board of Radiology
American Board of Surgery
Board of Thoracic Surgery
American Board of Urology

Residencies in the medical subspecialties of allergy, cardiovascular, gastrointestinal and pulmonary diseases are presently approved in concurrence with the subspecialty board concerned. The Council also lists approved services in contagious diseases, general practice, malignant diseases and occupational medicine. A preliminary list of residencies in preventive medicine and public health is being prepared for publication in the 1951 Internship and Residency Number.

The publication of these lists is made possible through the assistance and cooperative effort of the hospitals conducting approved programs, the American boards mentioned previously, the federal services and the medical schools. The Council wishes to express its appreciation for their continued support and to make grateful acknowledgment of their contribution. The primary purpose of the report is to provide physicians with a source of information on graduate training which will be helpful to them in making their plans for intern and residency training. To this end, the following report is presented.

NUMBER OF INTERNSHIPS

The number of internships offered in hospitals approved by the Council has increased by 246 during the past year, in spite of a decrease in the number of approved hospitals. The trend during the past 10 years toward a greater increase in the number of internships as compared with the increase in the number of hospitals approved is reflected in table 1. Since 1940, the number of approved hospitals has increased by 9.1 per cent. During the same period the number of internships offered has increased 17.1 per cent or almost twice the increase which could have been expected considering only the greater number of hospitals conducting intern training. In 1946, a postwar year, the number of hospitals which the Council had approved was almost exactly the same as approved this year: 798 in 1946 and 799 in 1950. None the less virtually the same number of hospitals this year offer 1,372 more internships than were available four years ago. This trend toward greater demand for intern service in approved hospitals is a significant factor in considering the present shortage of interns.

Approved internships are now offered in all but four of the states (table 2) New York with 1,464 positions available, California with 897 and Pennsylvania with 837 lead in the number of internships In addition to those available in the United States, there are 24 in the Canal Zone, 47 in approved hospitals in Hawaii and 29 in Puerto Rico

INTERNSHIP VACANCIES

For the past two years, the percentage of internships which were vacant remained about constant, 20 5 per cent in 1948 and 19 7 per cent in 1949 This year the number of position vacancies has increased to 24 9 per cent of the total number offered The number of vacancies reported by approved hospitals increased from 1,779 in 1949 to 2,340 in 1950 Part of this increase is due, of course, to the greater number of internships offered 9,370 in 1950, as compared with 9,124 last year Further, this year a greater number of hospitals gave complete information on their vacancies than the previous year While data regarding the number of graduates of foreign medical schools serving in approved hospitals is not presently available, the number of these physicians seeking intern training must be taken into account, as well as graduates of medical schools in this country, when considering the disparity between the number of internships offered in approved hospitals and the number of interns available

TABLE 1—*Approved Hospitals, Internships and Medical School Graduates, 1940-1950*

Year*	Number of Hospitals	Number of Internships	Number of Graduates
1940	732	7,008	5,097
1941	735	8,182	5,275
1942	740	8,353	5,163
1943	760	8,180	5,233
1944†	766	5,602	10,303‡
1945	765	8,429	5,136
1946	785	8,584	5,826
1947	764	8,539	6,389
1948	807	9,118	5,543
1949	807	9,124	5 094
1950	799	9,308	5,000 (Estimated)

* Year of publication
† Quota year
‡ Includes 2 classes
(U S Army, U S Navy Hospitals and those outside the United States not included in 1940 to 1947 figures)

The percentage of internships reported vacant ranged from 0 in New Hampshire to 100 per cent in Mississippi While hospitals in 11 states reported fewer vacancies than last year, 33 states and the District of Columbia reported an increase in the number of internships vacant A comparative analysis of internship vacancies for the years 1949 and 1950 is presented in table 2, including, by states, the number of approved hospitals, the number of internships offered, the number of reported vacancies and the vacancy percentage

In that part of the report which follows, the statistical data is based on information furnished by 96 per cent of the 799 hospitals approved Accordingly, the totals referred to hereafter will vary from those given in the preceding paragraphs Complete information regarding the length and type of internship offered, stipend and autopsy percentage was furnished by 762 hospitals of those approved

TYPE OF INTERNSHIP AND CONTROL

Three types of internships are approved by the Council rotating, mixed and straight The Council considers that the rotating internship is most likely to provide the best basic training for the graduate, whether he intends later to enter general practice or to take further training in a specialty It provides for supervised experience in the major clinical divisions of internal medicine, surgery, obstetrics and pediatrics, together with training in anesthesiology, roentgenology and pathol-

TABLE 2—*Comparison of Number of Internships and Number of Vacancies, 1949-1950*

State	Number of Hospitals Approved		Number of Internships Offered		Number of Vacancies Reported		Percentage of Vacancies	
	'49	'50	'49	'50	'49	'50	'49	'50
Alabama	5	5	58	68	7	34	12.0	50.0
Arizona	5	5	23	40	5	17	21.7	42.5
Arkansas	2	2	36	22	10	17	27.7	77.3
California	50	53	719	897	50	110	6.9	12.3
Colorado	11	11	95	111	11	28	11.6	25.2
Connecticut	18	16	197	179	37	35	18.8	19.6
Delaware	2	3	23	28	5	2	21.7	7.1
District of Columbia	11	12	191	197	26	29	13.6	14.7
Florida	6	9	59	80	22	33	37.3	41.2
Georgia	8	6	114	86	20	40	17.5	46.5
Idaho	0	0	0	0	0	0		
Illinois	63	62	696	702	130	98	18.5	14.0
Indiana	17	16	175	182	63	51	36.0	28.0
Iowa	10	11	72	81	34	22	47.2	27.2
Kansas	7	7	55	59	31	20	56.4	33.9
Kentucky	9	9	87	82	45	40	51.7	48.8
Louisiana	12	8	228	229	61	57	26.7	25.0
Maine	4	4	24	29	2	10	8.3	33.3
Maryland	21	20	306	321	40	79	13.0	24.6
Massachusetts	39	33	419	317	53	84	12.6	26.2
Michigan	31	31	368	387	77	115	20.9	29.7
Minnesota	15	15	181	184	19	44	10.5	23.9
Mississippi	2	2	16	16	12	16	75.0	100.0
Missouri	24	25	299	308	50	94	16.7	31.5
Montana	1	2	6	9	0	1		11.1
Nebraska	9	9	51	63	20	16	39.2	25.4
Nevada	0	0	0	0	0	0		
New Hampshire	1	1	9	11	0	0		
New Jersey	40	35	324	303	61	93	18.8	30.7
New Mexico	0	0	0	0	0	0		
New York	107	110	1,590	1,464	163	224	10.2	15.3
North Carolina	10	9	124	122	23	27	18.5	22.1
North Dakota	4	4	11	20	5	11	45.5	55.0
Ohio	44	45	478	495	128	208	26.7	42.0
Oklahoma	5	6	48	53	13	25	27.1	47.2
Oregon	6	6	69	70	12	21	17.4	30.0
Pennsylvania	75	76	803	837	168	256	20.9	30.6
Rhode Island	5	6	32	47	6	6	18.7	12.8
South Carolina	6	5	64	60	12	7	18.7	11.7
South Dakota	3	3	21	21	9	14	42.9	66.7
Tennessee	13	13	157	203	47	61	29.9	30.0
Texas	22	25	241	297	112	93	46.4	31.3
Utah	6	6	50	54	11	19	22.0	35.2
Vermont	2	2	13	13	1	2	7.7	15.4
Virginia	15	13	138	129	50	26	36.2	20.2
Washington	17	16	134	168	27	31	20.1	18.5
West Virginia	8	8	43	46	13	22	30.2	47.8
Wisconsin	23	23	180	180	69	73	38.3	40.6
Wyoming	0	0	0	0	0	0		
Totals *	795	788	9,027	9,370	1,779	2,340	19.7	24.9

* Excludes territorial approved hospitals

TABLE 3—*Internships Offered by Type and Control*

Control	Number of Hospitals Approved	Number of Internships Offered			
		Rotating	Mixed	Straight	Total
Federal					
Army	6	154			154
Navy	14	208			208
U S P H S	11	113	9		122
Vet Adm	1			41	41
Other Federal	2	29		3	32
	34	504	9	44	557
Other Governmental					
City	51	1,040	29	231	1,300
County	29	673	4	36	713
City County	12	201	16	7	224
State	22	530	6	24	560
	114	2,444	55	298	2,797
Nongovernmental					
Church	292	2,265	55	85	2,405
N P A	312	2,576	102	506	3,184
Partnership	2	11			11
Corporation	8	48			43
	614	4,895	157	591	5,643
Grand Totals	762	7,843	221	933	8,997

ogy The mixed internship offers training in two or more but not all, of the major divisions A straight internship is limited to supervised experience in a single major clinical division, including its related subspecialties Approval in this category is extended in internal medicine, surgery pediatrics, obstetrics and pathology It is ordinarily limited to hospitals affiliated with medical schools where the intern's participation in the educational activities of the school compensates to a degree for the limited nature of his hospital training

A breakdown of the type of internships available is given in table 3 The data is presented from the standpoint of hospital control in addition to type of internship offered In the federal group 90 5 per cent of the internships are of the rotating type, 7 9 per cent straight and 1 6 per cent mixed The hospitals classified as governmental (other than federal) reported 87 3 per cent of their internships were rotating, 10 7 per cent were straight and 2 0 per cent mixed The breakdown for the nongovernment group was about the same, with 86 8 per cent of the rotating variety 10 5 per cent straight and 2 7 per cent mixed Considering all hospitals in these groups, 87 3 per cent of the internships were rotating in nature

The federal services now provide 6 2 per cent of the internships offered by approved hospitals, with the Navy listing 208,[1] an increase of 19 over last year, the Army 154,[1] a decrease of 3 internships during the same period, and the Federal Security Agency hospitals, including those of the Public Health Service 154, the same number as last year For the first time the Council has listed Veterans Administration hospitals as approved for intern training, in the two hospitals approved as of April 1, 1950, 87 internships were being offered Other governmental hospitals, (city, county and state) provide for 31 1 per cent of the internships in this table, including 1,300 in city hospitals, 713 county, 560 state and 224 internships in city-county hospitals Internships in nongovernmental hospitals comprise 62 7 per cent of the total with nonprofit association hospitals offering 3,184, church-sponsored hospitals 2,405, corporation-owned hospitals 43 and hospitals conducted on a partnership basis 11

LENGTH OF INTERNSHIP

It has been pointed out that a significant factor in the present shortage of interns has been the decrease in the number of 18 month and two year internships available, with a consequent increase in the annual demand for interns by hospitals which formerly offered appointments only on alternate years In view of the fact that men in the intern age group are no longer being inducted into military service, permitting the hospitals more flexibility in long range planning, it might have been expected that a number of hospitals would return to their prewar schedules, offering 18 and 24 month training Actually, the number of hospitals offering training of more than one year's duration remained almost constant during the past year In 1949, 76 hospitals reported programs in excess of one year, while this year 77 hospitals reported programs of this type There were 1,189 rotating, 132 straight and 82 mixed internships offered which were more than one year in length, constituting 15 6 per cent of the total number approved in the reporting hospitals Reorganization of the internship on a two year basis by 40 per cent of those hospitals presently approved would serve to reduce the number of interns required annually to approximately the number of interns available The development of two year programs designed for the physician intending to enter general practice and the acceptance when feasible by the specialty boards of internship training at the second year level would serve to stimulate renewed interest in the longer training periods for the intern

STIPENDS

Stipends offered in approved hospitals during the past year were somewhat higher than those of the previous year A breakdown of the salaries paid in addition to maintenance shows 63 hospitals (9 per cent) paid no salaries to the intern staff, 293 hospitals (40 per cent) paid $50 or less per month, 283 hospitals (39 per cent) offered amounts ranging from $51 to $100, and the other 89 (12 per cent) paid amounts in excess of $100 The comparable percentages for 1949 were 13, 40, 33 and 9 per cent, respectively (in the remaining 5 per cent of hospitals, information regarding stipends was not submitted) During the past year

TABLE 4—*Internship Hospitals with Highest Autopsy Rates*

	FEDERAL			NONFEDERAL	
1	U S Naval Hospital Bremerton Wash	100	1	St Benedict s Hospital Ogden Utah	96
2.	Brooke Army Medical Center San Antonio Texas	95	2.	Herrick Memorial Hospital Berkeley Calif	94
3.	Oliver General Hospital Augusta Ga	90	3	Children s Hospital Los Angeles	92
4	Army Medical Center Washington D C	90	4	Research and Educational Hospitals Chicago	88
	Letterman General Hospital San Francisco	89	5	University of Nebraska Hospital Omaha	87
6	Fitzsimmons General Hospital Denver	84	6	Children s Hospital Boston	86
7	U S Naval Hospital Long Beach Calif	83	7	Beverly Hospital Beverly Mass	86
8	U S Naval Hospital San Diego Calif	81	8	Evanston Hospital Evanston Ill	85
9	U S Marine Hospital Galveston Texas	81	9	Mount Sinai Hospital Philadelphia	85
10	Veterans Administration Center Los Angeles	81	10	Hospital of the University of Pennsylvania Philadelphia	84
11	Valley Forge General Hospital Phoenixville Pa	80	11	Loretto Hospital Chicago	84
12.	U S Naval Hospital Great Lakes Ill	80	12.	Ravenswood Hospital Chicago	82
13	U S Marine Hospital, Baltimore	78	13	Bethany Hospital Kansas City Kan	82
14	U S Naval Hospital Mare Island Calif	77	14	Community General Hospital Reading Pa	81
15.	U S Marine Hospital New Orleans	76	15	University of Minnesota Hospitals Minneapolis	81
16	U S Naval Hospital Oakland Calif	75	16	University of California Hospital San Francisco	79
17	U S Naval Hospital St Albans N Y	75	17	St Luke s Hospital Chicago	79
18	U S Naval Hospital Portsmouth Va	75	18	Baltimore City Hospitals Baltimore	79
19	U S Marine Hospital San Francisco	75	19	Ohio State University Hospital Columbus	78
20	U S Marine Hospital Boston	75	20	University Hospital Ann Arbor Mich	78

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[1] Does not include internships in civilian hospitals sponsored by the service

there was a decided decrease in the number of hospitals which offer no salary Last year 104 hospitals reported that they paid no salary to the intern staff, this year the number so reporting had fallen to 63 On the other hand, the number of hospitals reporting salaries in excess of $100 per month rose from 71 in 1949 to 89 this year

Stipends paid by the federal services are not listed The intern serving in a federal hospital, or in a civilian hospital under the sponsorship of a federal service, receives pay and allowances as established by government pay tables Stipends paid in Veterans Administration hospitals are based on salary levels prevailing in the area as established by the Veterans Administration in cooperation with the Deans Committee responsible for the training program

TABLE 5—*Residencies Offered and Number of Vacancies by Specialties*

Specialty	Number of Hospitals Approved	Number of Residencies Offered	Number of Vacancies Reported
Allergy	9	12	1
Anesthesiology	213	731	107
Cardiovascular Disease	19	37	0
Contagious Diseases	14	60	2
Dermatology and Syphilology	80	238	7
Gastroenterology	4	9	1
General Practice	32	94	10
Internal Medicine	528	3,751	185
Malignant Diseases	20	116	4
Neurological Surgery	79	181	4
Neurology	69	200	27
Obstetrics and Gynecology	374	1,592	30
Occupational Medicine	1	2	
Ophthalmology	160	493	18
Orthopedic Surgery	257	779	27
Otolaryngology	152	422	23
Pathology	417	1,001	105
Pediatrics	216	1,092	8
Physical Medicine	42	55	18
Plastic Surgery	22	39	
Proctology	10	15	2
Psychiatry	231	1,754	344
Pulmonary Diseases	112	372	78
Radiology	375	970	73
Surgery	600 *	4,150 *	78
Thoracic Surgery	43	86	6
Urology	213	485	21
Totals	4,292 †	18,669	1,179

* Includes 2 categories (See page 1201)

† Number of residency programs in 1,079 hospitals approved for residency training

APPROVED RESIDENCY PROGRAMS

The Council now lists approved residencies in 27 different branches of medicine including 19 specialties in which certifying boards have been established and 5 which are considered subspecialties of a major clinical division, i e allergy, cardiovascular diseases, gastroenterology, pulmonary diseases and thoracic surgery A résumé of specialties approved by the Council is presented in table 5 Information is given regarding the number of hospitals approved in the specialty, the number of residencies offered and the number of vacancies reported, as of Sept 1, 1949

Surgical residencies are listed in two categories those approved by the Council and the American Board of Surgery, and a second group of hospitals, to which approval has been extended by the Council as offering satisfactory training in general surgery in preparation for residency training in the surgical specialties An editorial commenting on these two types of surgical programs appears in this issue ("Approved Surgical Programs," page 1216) Residencies in general practice are listed for the first time with 32 hospitals offering 94 residencies in this field Also for the first time an approved program *in occupational medicine* is included in the list

In eleven of the specialties, including dermatology and syphilology, neurologic surgery, neurology, obstetrics-gynecology, orthopedic surgery, pathology, pediatrics, psychiatry, radiology, surgery and urology, programs are listed as approved for a specified number of years of training

Residencies in radiology are being reappraised on the basis of a survey recently completed A revised list of residencies in this specialty will appear in the Educational Number, Sept 9, 1950

There are now 4,292 residency training programs being conducted in 1,079 hospitals approved by the Council The specialties in which the greatest number of hospitals are approved include surgery, 600 approved programs, internal medicine, 528, pathology, 417, radiology, 375, and obstetrics and gynecology, 374 One program, affording opportunity for two residents, is offered in occupational medicine While the number of approved programs increased by less than 4 per cent, the total number of residencies offered increased by approximately 8 per cent during the past year, with 18 669 positions now available in approved programs This increase is proportionately less than that which occurred last year, when a 14 per cent increase was reported The marked expansion in facilities for residency training which occurred during the postwar period has slowed according to information presently available

RESIDENCY VACANCIES

Table 5 includes information on the number of vacancies in approved programs reported as of Sept 1, 1949 While the total number of positions reported vacant was approximately 6 per cent, 15 per cent or more of the number of positions available were reported vacant in certain specialties They include physical medicine, with 33 per cent of the residencies in this specialty reported vacant, pulmonary diseases, 21 per cent, psychiatry, 20 per cent, and anesthesiology, 15 per cent The total number of vacancies reported in these four specialties constitutes 47 per cent of the number of positions which were not filled The remaining 53 per cent included vacancies in 20 other specialties and subspecialties

The largest number of vacancies occurred in psychiatry, with 344 positions unfilled, 185 residencies in internal medicine were reported vacant, 107 in anesthesiology and 105 in pathology Together these four specialties accounted for 741 of the 1,179 vacancies reported, or 63 per cent In surgery and the surgical specialties, including neurologic surgery, obstetrics-gynecology, ophthalmology, orthopedic surgery, otolaryngology, plastic surgery, proctology, thoracic surgery and urology, less than 3 per cent of the residencies offered were reported vacant Of a total number of 8,214 residencies in these specialties, 209 were not filled Since there was an increase of 1,376 residencies in approved hospitals during the past year, it can be anticipated that there will be an increase in the number of *vacancies during* the next reporting period

APPROVED INTERNSHIPS

Council on Medical Education and Hospitals of the American Medical Association

535 North Dearborn Street Chicago 10

Revised to April 1, 1950

HOSPITALS, 799 INTERNSHIPS, 9,398

The following general hospitals investigated and approved by the Council on Medical Education and Hospitals, are considered in position to furnish acceptable intern training in accordance with standards adopted by the American Medical Association Three types of internships are approved by the Council—rotating mixed and straight

1 A rotating internship is defined as one which provides supervised experience in internal medicine, surgery, pediatrics, obstetrics and their related subspecialties together with experience in laboratory and radiologic diagnosis

2 A mixed internship is defined as one which provides supervised experience in two or more, but not in all, of the clinical divisions named

3 A straight internship is defined as one which provides supervised experience in a single department, although it may include limited opportunity for work in a related subspecialty Straight internships are now approved in internal medicine, surgery pediatrics obstetrics (with or without gynecology) and pathology

Hospitals approved for internships that are used by medical schools for undergraduate clinical clerkships on inpatient services have been identified in the following lists by the symbols **X** and **x** Hospitals have been identified with symbol **X** when a medical school has indicated that the hospital is a major unit in the school's teaching program Hospitals have been identified with the symbol **x** when a medical school has indicated that the hospital is used to a limited extent in the school s teaching program Certain internships in hospitals designated as teaching hospitals may not provide for assignments to teaching services Other internships may provide for only a portion of the internship period being spent on teaching services Prospective interns desiring specific information concerning internship assignments to teaching services in a hospital are advised to communicate with the dean of the medical school with which the hospital is affiliated Medical school affiliations are indicated by footnotes 10 to 81 placed immediately after the symbol **X** or **x** The list of medical schools appears on page 1159 The plus (+) sign indicates additional approval for residencies in specialties as shown in the Council s list of Approved Residencies and Fellowships

Name of Hospital	Location	Bed Capacity	Total Patients Admitted	Type of Internships	Length of Service in Months	Internship Offered	Affiliated Service	Outpatient Service	Autopsy Percentage
UNITED STATES ARMY									
Letterman General Hospital +[2]	San Francisco Calif	1 875	12 405	R	12	28	No	Req	80
Fitzsimmons General Hospital +[3] x13	Denver Colo	2 000	12 762	R	12	24	No	None	84
Army Medical Center +[3] x18 19	Washington D C	1 600	11 09	R	12	30	No	Req	90
William Beaumont General Hospital	El Paso Tex	15 403	80 412		12	12			81
Brooke Army Medical Center +[3]	San Antonio Tex	1 000	19 284	R	12	20	No	None	98
Madigan General Hospital +	Fort Lewis Wash	1,530	14,232	R	12	27	No	Req	90
Gorgas Hospital	Ancon	See Gorgas Hospital Ancon Canal Zone page 1158							
Tripler General Hospital +	Moanalua Honolulu Hawaii	1 449	13 668	R	12	24	No	None	86
UNITED STATES NAVY									
U S Naval Hospital +	Long Beach Calif	1 500	18,345	R		21	No	Req	83
U S Naval Hospital [1]	Mare Island Calif	700	6,591	R	12	6	No	Req	77
U S Naval Hospital +[3]	Oakland Calif	1,500	12,815	R	12	30	No	Req	75
U S Naval Hospital +[1]	San Diego Calif	1 700	21 102	R	12	20	No	Req	81
U S Naval Hospital	Jacksonville Fla	500	5 127	R	12	4	No	None	71
U S Naval Hospital +	Pensacola Fla	400	6 483	R	12	4	No	Req	71
U S Naval Hospital +[1 3]	Great Lakes Ill	800	8,912	R	12	12	No	Req	80
U S Naval Hospital +[1] x18	Bethesda Md	1,350	15,990	R	12	22	No	Req	65
U S Naval Hospital +[1]	Chelsea Mass	820	7,949	R	12	12		None	56
U S Naval Hospital +[1-3]	St Albans N Y	1 510	8,925	R	12	15	No	Req	75
U S Naval Hospital +[3]	Philadelphia Pa	1 450	14,822	R	12	20	No	Req	58
U S Naval Hospital	Newport R. I	600	7 039	R		8	No	Req	68
U S Naval Hospital +	Portsmouth Va	1 468	14 614	R	12	14	No	None	75
U S Naval Hospital	Bremerton Wash	450	5,391	R	12	8	No	Req	100
U S PUBLIC HEALTH SERVICE									
U S Marine Hospital +[1-3]	San Francisco Calif	527	5 074	R	12	10	(158)	Req	75
U S Marine Hospital +[1 3]	Chicago Ill	204	2 607	R	12	6	(194)	Req	71
U S Marine Hospital +[1 3]	New Orleans La	436	6,553	R	12	12	No	Req	76
U S Marine Hospital +[1 3]	Baltimore Md	400	6,248	R	12	12	(137)	Req	78
U S Marine Hospital +[3]	Boston Mass	340	3,966	R	12	9	(241)	None	75
U S Marine Hospital [1]	Detroit Mich	248	2,863	R	12	6	(223)	Req	51
U S Marine Hospital +[1-3]	Stapleton L I N Y	754	11 336	R	12	30	(212)	Req	67
U S Marine Hospital +[1-3]	Cleveland Ohio	268	2 725	R	12	7	(148)	Req	65
U S Marine Hospital [1] x72	Galveston Tex	107	2 936	R	12	6	(217)	None	81
U S Marine Hospital [3]	Norfolk Va	360	4 782	R	12	10	(128)	Req	61
U S Marine Hospital +[1-3]	Seattle Wash	515	6 071	R	12	12	No	Req	75
FEDERAL SECURITY AGENCY									
Freedmens Hospital +[1-3] X20	Washington D C	476	7 639	R S	12	20	No	Req	51
St Elizabeth s Hospital +[1-3] x19	Washington D C	6,800	1 470	R	24	12	(260)	Req	70
VETERANS ADMINISTRATION									
Veterans Admin Hospital +[1]	Los Angeles Calif	3,508	16,954	S	12	41	No	Req	81
Veterans Admin Hospital +	Van Nuys, Calif	10 680	50 681		12	46			82

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
ALABAMA											
Carraway Methodist Hospital +1	Birmingham	Church	225	7,045	R	12 24	8	No	Req	40	75
Jefferson Hillman Hospital +1 3 X10	Birmingham	State	504	20,324	R	12	36	No	Req	47	25
Employees Hospital of Tennessee Coal, Iron and Railroad Company + X10	Fairfield	NPAssn	300	10,314	R	12	10	No	Req	44	75
Holy Name of Jesus Hospital	Gadsden	Church	120	6,271	R	12	2	No	None	28	75
City Hospital +1	Mobile	CyCo	300	7,850	R	12	12	No	Req	51	150
ARIZONA											
Good Samaritan Hospital 1	Phoenix	Church	210	6,300	R	12	7	No	None	38	100
St Joseph's Hospital +	Phoenix	Church	102	8,354	R	12	8	No	None	51	75
St Monica's Hospital and Health Center +1	Phoenix	Church	201	7,058	R	12	12	(103)	Req	44	75
St Mary's Hospital and Sanatorium +1	Tucson	Church	221	7,417	R	12	3	(104)	Req	37	75
Tucson Medical Center +1	Tucson	NPAssn	240	5,704	R	12	10	(253)	Req	56	50
ARKANSAS											
Arkansas Baptist Hospital +1	Little Rock	Church	269	10,800	R	12	10	No	None	20	75
University Hospital +1 X11	Little Rock	State	200	4,070	R	12	12	No	None	49	75
CALIFORNIA											
Herrick Memorial Hospital +1	Berkeley	NPAssn	190	8,035	R	12	6	No	Req	94	35
San Joaquin General Hospital +2	French Camp	County	640	8,328	R	12	12	No	Req	42	135
General Hospital of Fresno County +1	Fresno	County	602	9,577	R	12	16	No	Req	33	100
Glendale Sanitarium and Hospital +1 X13	Glendale	Church	225	7,228	R	12	8	No	Req	41	130
Loma Linda Sanitarium and Hospital +1 X13	Loma Linda	Church	133	4,892	R	12	6	No	Req	75	104
Seaside Memorial Hospital +1	Long Beach	NPAssn	370	15,370	R	12	12	(185)	Req	30	50
California Hospital +1	Los Angeles	Church	317	14,762	R	12	14	(181)	Req	50	50
Cedars of Lebanon Hospital +1	Los Angeles	NPAssn	310	11,400	R	12	12	(100)	Req	36	60
Childrens Hospital +1 X14	Los Angeles	NPAssn	203	5,950	S	12	1	(101)	Req	92	40
Hospital of the Good Samaritan +1	Los Angeles	Church	400	12,173	R	12	20	(184)	Req	62	60
Los Angeles County Hospital +1 3 X13 14	Los Angeles	County	3,794	64,952	R	12 24	135	No	Req	51	60
Presbyterian Hospital-Olmsted Memorial 1	Los Angeles	Church	300	11,481	R	12	11	(186)	Req	36	60
Queen of Angels Hospital +1	Los Angeles	Church	502	18,972	R	12	16	No	Req	55	50
St Vincent's Hospital +	Los Angeles	Church	238	9,083	M	12	6	No	None	42	60
Santa Fe Coast Lines Hospital	Los Angeles	NPAssn	196	4,237	R	12	8	(102)	Req	77	80
White Memorial Hospital +1 X13	Los Angeles	Church	207	9,216	R	12	17	No	Req	69	91
Highland Alameda County Hospital +1 3	Oakland	County	486	11,374	R	12	26	(187)	Req	50	75
Permanente Foundation Hospital +1	Oakland	NPAssn	315	9,282	R	12	10	No	None	70	75
Orange County General Hospital 1	Orange	County	428	3,580	R	12	11	No	Req	54	154
Collis P and Howard Huntington Memorial Hospital +1	Pasadena	NPAssn	238	10,305	R	12	8	No	Req	71	117 50
St Luke Hospital	Pasadena	Church	160	7,540	R	12	8	No	None	37	60
Riverside County Hospital 1	Riverside	County	320	3,776	R	12 24	8	No	Req	45	158
Sacramento County Hospital 1	Sacramento	County	375	10,023	R	12	18	No	Req	50	105
San Bernardino County Charity Hospital + X13	San Bernardino	County	343	5,470	R	12	11	No	Req	55	110
Mercy Hospital +	San Diego	Church	332	13,877	R	12	8	No	Req	33	55
San Diego County General Hospital +1	San Diego	County	924	8,851	R	12	17	No	Req	51	65
Children's Hospital +1 X12	San Francisco	NPAssn	250	8,071	R	12	8	No	Req	61	35
Franklin Hospital +1	San Francisco	NPAssn	250	7,716	R S	12	10	No	None	50	35
French Hospital +1	San Francisco	NPAssn	225	6,452	R	12	9	No	Req	34	50
Mary's Help Hospital +1	San Francisco	Church	186	6,835	R	12	6	No	Req	35	50
Mount Zion Hospital +1 3	San Francisco	NPAssn	163	5,725	R	12	12	No	Req	70	25
St Joseph's Hospital +1	San Francisco	Church	238	7,523	R	12	8	No	None	39	50
St Luke's Hospital +2	San Francisco	Church	229	7,951	R	12	6	No	Req	44	40
St Mary's Hospital +1	San Francisco	Church	371	11,012	R	12	14	No	Req	48	50
San Francisco Hospital +1 3 X12 15	San Francisco	CyCo	1,376	21,058	R	12	50	(239)	Req	21	110
Southern Pacific General Hospital +	San Francisco	NPAssn	450	7,747	R	12	16	(105)	Req	52	60
Stanford University Hospitals +1	San Francisco	NPAssn	356	11,369	S	12	15	No	Req	63	25
University of California Hospital +1 X12	San Francisco	State	286	8,141	S	12	24	(243)	Req	79	25
Santa Clara County Hospital +1	San Jose	County	446	6,340	R	12	12	No	Req	68	75
St Francis Hospital +	Santa Barbara	Church	91	3,420	R	12	3	No	None	35	100
Santa Barbara Cottage Hospital +1	Santa Barbara	NPAssn	210	6,957	R	12	14	(254)	Req	53	50
Santa Barbara General Hospital 1	Santa Barbara	County	305	2,238	R	12	11	(262)	Req	43	50
St John's Hospital +1	Santa Monica	Church	108	6,097	R	12	6	No	Req	53	50
Santa Monica Hospital 1	Santa Monica	Church	178	9,450	R	12	10	(132)	Req	76	50
Harbor General Hospital +1	Torrance	County	580	6,881	R	12	25	No	Req	51	60
COLORADO											
Glockner-Penrose Hospital +1	Colorado Springs	Church	220	4,892	R	12	4	No	Req	43	50
Mercy Hospital +1	Denver	Church	250	10,342	R	12	10	No	Req	43	30
Porter Sanitarium and Hospital 1	Denver	Church	130	5,128	R	12	6	(188)	Req	42	160
Presbyterian Hospital + X16	Denver	Church	170	7,368	R	12	6	No	Req	50	30
St Anthony Hospital 1	Denver	Church	235	9,044	R	12	12	(189)	Req	49	30
St Joseph's Hospital +1	Denver	Church	338	11,382	R	12	6	No	Req	36	50
St Luke's Hospital +	Denver	Church	281	11,498	R	12	9	(190)	Req	46	30
University of Colorado Medical Center											
Colorado General Hospital +1 X16	Denver	State	270	5,167	R	12	12	No	Req	77	30
Denver General Hospital +1 X16	Denver	CyCo	495	9,035	R	12	16	No	Req	51	30
Corwin Hospital +1	Pueblo	Church	206	6,216	R	12	6	No	Req	50	50
CONNECTICUT											
Bridgeport Hospital +1	Bridgeport	NPAssn	329	13,097	R	12	12	No	None	48	100
St Vincent's Hospital +1	Bridgeport	Church	345	11,305	R	12	12	(159)	Req	33	100
Hartford Hospital +1-3	Hartford	NPAssn	864	25,871	R M	24	28	No	Req	61	
St Francis Hospital +1-3	Hartford	Church	538	17,928	R	12	20	(246)	Req	33	35
Meriden Hospital 1	Meriden	NPAssn	121	5,259	R	12	4	No	Req	45	100
Middlesex Hospital 1	Middletown	NPAssn	150	4,940	R	12 24	5	(106)	Req	39	50
New Britain General Hospital +1	New Britain	NPAssn	257	7,592	R	12	6	No	None	62	50
Grace New Haven Community Hospital											
Grace Unit +1	New Haven	NPAssn	163	5,892	R	12	6	No	Req	31	25
New Haven Unit (University Service) +1 3 X17	New Haven	NPAssn	538	11,570	S	12 24	35	(133)	Req	60	
Hospital of St Raphael +1	New Haven	Church	370	14,619	R M	24	15	No	Req	26	50
Lawrence and Memorial Associated Hospitals +1	New London	NPAssn	261	6,859	R	12	4	No	None	17	105
Norwalk Hospital +1	Norwalk	NPAssn	239	7,955	R	12	6	No	Req	47	117.50
William W Backus Hospital	Norwich	NPAssn	138	4,676		12	3			21	150
Stamford Hospital +1	Stamford	NPAssn	232	7,278	R	12	9	No	Req	60	100
St Mary's Hospital +1	Waterbury	Church	324	10,079	R	12	6	No	Req	25	100
Waterbury Hospital +1-3	Waterbury	NPAssn	310	10,720	R	12	8	No	Req	54	75

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
DELAWARE											
Delaware Hospital +[1] [3]	Wilmington	NPAssn	376	10 201	R	12	15	No	Req	63	75
Memorial Hospital +[1] X61	Wilmington	NPAssn	210	5,873	R	12	6	No	Req	64	100
Wilmington General Hospital +[1]	Wilmington	NPAssn	184	5 601	R	12	7	No	Req	40	100
DISTRICT OF COLUMBIA											
Central Dispensary and Emergency Hospital +[1] [3] x19	Washington	NPAssn	310	7 115	R	12	14	(192)	Req	52	25
Doctors Hospital +[1]	Washington	Corp	239	9 482	R	12	8	(193)	None	67	50
Gallinger Municipal Hospital +[1] [3] X18 19 x20	Washington	City	1 416	21 000	S	12	44	No	None	50	75
Garfield Memorial Hospital +[1]	Washington	NPAssn	277	9 036	R	12	14	No	Req	69	15
Georgetown University Hospital +[1] X18	Washington	Church	360	10 555	S	12	10	(208)	Req	55	25
George Washington University Hospital +[1] X19	Washington	NPAssn	405	11 244	S	12	20	No	Req	64	25
Providence Hospital +[1] x18	Washington	Church	207	11,219	R	12	12	No	Req	76	50
Sibley Memorial Hospital +[1]	Washington	Church	260	11,223	R	12	9	No	Req	69	50
Washington Sanitarium and Hospital [1]	Washington	Church	188	4 221	R	12	4	No	Req	40	108
FLORIDA											
Brewster Hospital +[1]	Jacksonville	Church	140	2 856	R	12	2	No	Req	18	60
Duval Medical Center +	Jacksonville	County	376	7,302	R	12	10	No	Req	47	15
St Luke's Hospital +	Jacksonville	NPAssn	180	7 503	R	12	4	No	None	37	65
St Vincent's Hospital +[1]	Jacksonville	Church	200	12,659	R	12 24	13	(220)	Req	63	50
Jackson Memorial Hospital +[1] [3]	*Miami*	*County*	*533*	*17,696*	*R*	*12*	*28*	*No*	*Req*	*41*	*34.50*
Orange Memorial Hospital [1]	Orlando	NPAssn	214	6 253	R	12	7	No	None	19	100
Tampa Municipal Hospital	Tampa	City	300	10 507	R	12	8	No	Req	19	75
GEORGIA											
Crawford W Long Memorial Hospital +[1]	Atlanta	NPAssn	444	16,372	R	12	16	(221)	Req	42	50
Grady Memorial Hospital +[1] [3] X21	Atlanta	Counties	610	17 070	S	12	30	No	Req	54	10
Piedmont Hospital +[1] x21	Atlanta	NPAssn	132	5 805	R	12	6	No	None	50	35
St Joseph's Infirmary +[1]	Atlanta	Church	139	6 803	R	12	6	(107)	Req	41	75
University Hospital +[1] X22	Augusta	City	500	13 783	R	12	18	No	Req	26	20
Emory University Hospital +[1] X21	Emory University	NPAssn	277	9 901	S	12	10	(108)	Req	51	25
ILLINOIS											
Macneal Memorial Hospital [1]	Berwyn	NPAssn	165	8 077	R	12	6	No	Req	47	150
Burnham City Hospital [1]	Champaign	City	125	5,333	R	12	4	(109)	Req	28	100
American Hospital +[1]	Chicago	NPAssn	152	5 178	R	12	5	No	Req	42	25
Augustana Hospital +[1]	Chicago	Church	273	8 042	R	12	10	No	Req	54	25
Chicago Memorial Hospital +[1]	Chicago	NPAssn	92	2,086	R	12	5	No	Req	64	150
Columbus Hospital	Chicago	Church	132	8,966	R	12	4	(110)	None	41	75
Cook County Hospital +[1] [3] X23 24 26 80	Chicago	County	3,200	73 302	R	24	120	No	Req	24	15
Edgewater Hospital +[1]	Chicago	NPAssn	138	6 077	R	12	8	No	None	28	100
Englewood Hospital +	Chicago	NPAssn	161	6 073	R	12	6	No	None	33	100
Evangelical Hospital [1]	Chicago	Church	195	8 063	R S	12	9	No	None	21	100
Garfield Park Community Hospital	Chicago	NPAssn	150	5 782	R	12	6	No	None	38	125
Grant Hospital +[1] x24	Chicago	NPAssn	236	7,501	R	12	10	No	Req	62	50
Henrotin Hospital +[1]	Chicago	NPAssn	100	3 609	R	12	4	No	Req	71	75
Holy Cross Hospital	Chicago	Church	143	6 444	R	12	6	No	None	49	100
Hospital of St Anthony de Padua +[1]	Chicago	Church	217	8 116	R	12	9	No	None	36	100
Illinois Central Hospital +[1]	Chicago	NPAssn	262	6,380	R	12	9	(261)	Req	27	110
Illinois Masonic Hospital +[1]	Chicago	NPAssn	225	7 920	R	12	10	No	Req	61	25
Jackson Park Hospital [1]	Chicago	Corp	136	4 725	R	12	6	No	None	33	150
Loyola University Hospital Group	Chicago	Church	139	5 159	R	12	8	No	None	84	75
Loretto Hospital +[1]											
University Hospital											
Lutheran Deaconess Home and Hospital +[1]	Chicago	Church	193	7,176	R	12	5	No	Req	52	25
Mercy Hospital Loyola University Clinics +[1] X80	Chicago	Church	309	9 654	R	12	12	(134)	Req	44	25
Michael Reese Hospital +[1] x24 26	Chicago	NPAssn	647	17 549	R	12	40	(111)	Req	70	15
Mother Cabrini Memorial Hospital	Chicago	Church	150	4,524	R	12	6	No	None	29	100
Mount Sinai Hospital +[1] X23	Chicago	NPAssn	285	10 243	R-S	12	16	(112)	OP	45	15
Norwegian American Hospital +[1]	Chicago	NPAssn	175	7 736	R	12	6	No	None	41	100
Passavant Memorial Hospital +[1] X24	Chicago	NPAssn	260	7 450	R	12	15	(112)	None	70	
Presbyterian Hospital + X26	Chicago	NPAssn	435	12,925	R S	12	20	No	None	70	
Provident Hospital +[1]	Chicago	NPAssn	180	5,917	R	12	9	No	None	56	25
Ravenswood Hospital +[1]	Chicago	NPAssn	207	7,308	R	12	6	No	None	82	50
Research and Educational Hospitals +[1] X26	Chicago	State	432	7 253	R	12	24	No	Req	88	
Roseland Community Hospital	Chicago	NPAssn	101	3 770	R	12	4	No	None	24	175
St Anne's Hospital +[1] x80	Chicago	Church	320	11 034	R	12	14	No	Req	44	100
St Bernard's Hospital +[1]	Chicago	Church	189	6 481	R	12	8	No	None	31	100
St Elizabeth Hospital +[1]	Chicago	Church	278	9 449	R	12	8	No	None	36	100
St Joseph Hospital +[1] X24 x80	Chicago	Church	220	5,882	R	12	6	No	Req	60	50
St Luke's Hospital +[1] X24 x26	Chicago	NPAssn	547	17 137	R	12	24	No	Req	79	
St. Mary of Nazareth Hospital +	Chicago	Church	203	9 580	R	12	8	No	Req	55	100
South Chicago Community Hospital [1]	Chicago	NPAssn	206	7,988	R	12	7	No	None	33	150
Swedish Covenant Hospital +[1]	Chicago	Church	193	6,379	R	12	8	No	None	37	125
University of Chicago Clinics +[1] [3] X25	Chicago	NPAssn	526	13 056	R	12	24	No	Req	77	
Wesley Memorial Hospital +[1] X24	Chicago	Church	571	15 958	R	12	82	(195)	None	61	
Women and Children's Hospital +[2]	Chicago	NPAssn	115	8 499	R	12	4	No	Req	55	50
Woodlawn Hospital +[1]	Chicago	NPAssn	124	3,890	R	12	4	No	Req	60	100
St Mary's Hospital [1]	East St Louis	Church	265	6 967	R	12	10	No	None	29	150
Memorial Hospital [1]	Elmhurst	NPAssn	184	8 074	R	12	8	No	None	62	100
Evanston Hospital +[1] X24	Evanston	NPAssn	255	7 757	R	12	18	(130)	Req	85	
St Francis Hospital +[1]	Evanston	Church	359	11,855	R	12	12	No	None	55	50
Little Company of Mary Hospital +[1] x80	Evergreen Park	Church	350	11 655	R	12	12	No	None	26	100
St Joseph's Hospital	Joliet	Church	303	9 147	R	12	5	No	None	29	100
Moline Public Hospital [1]	Moline	City	198	8,242	R	12	3	No	Req	23	100
Oak Park Hospital	Oak Park	Church	148	5 448	R	12	6	No	None	20	100
West Suburban Hospital + x26	Oak Park	NPAssn	327	11 952	R	12	12	No	Req	50	50
Methodist Hospital of Central Illinois +	Peoria	Church	200	7,898	M	12	8	No	None	38	75
St Francis Hospital +[1]	Peoria	Church	455	15 015	R	12	12	No	Req	40	50
St Mary's Hospital	Quincy	Church	195	5,363	R	12	6	No	None	20	75
Rockford Memorial Hospital [1]	Rockford	NPAssn	130	6,875	R	12	4	No	None	70	50
St Anthony's Hospital +[1]	Rockford	Church	258	7 788	R	12	6	(113)	None	45	75
Swedish American Hospital	Rockford	NPAssn	125	5 303	R	12	8	No	None	45	100
Memorial Hospital [1]	Springfield	NPAssn	253	7 718	R	12	4	No	None	27	100

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
INDIANA											
St Catherine's Hospital[1]	East Chicago	Church	264	8,179	R	12	7	No	None	26	75
Protestant Deaconess Hospital[1]	Evansville	Church	243	11,086	R	12	4	(196)	Req	25	100
Methodist Hospital[1]	Gary	Church	209	9,358	R	12	8	No	None	23	100
St Mary's Mercy Hospital +[1]	Gary	Church	210	7,432	R	12	6	No	None	20	125
St Margaret Hospital +	Hammond	Church	260	10 560	R	12	10	No	None	38	150
Indianapolis General Hospital +[1-3] X27	Indianapolis	City	685	10 703	R	12 24	37	(135)	Req	44	70
Indiana University Medical Center +[1-3]-X27	Indianapolis	State	599	11,865	R	12	32	(160)	Req	75	12.50
Methodist Hospital +[1]	Indianapolis	Church	617	22,483	R	12	24	No	None	33	137.50
St Vincent's Hospital +[1]	Indianapolis	Church	325	13 120	R	12	12	No	Req	39	150
St Elizabeth Hospital +	LaFayette	Church	305	8 608	R	12	10	No	Req	41	100
St Joseph Hospital[1]	Mishawaka	Church	112	3,759	R	12	3	No	None	32	100
Ball Memorial Hospital +[1]	Muncie	NPAssn	217	9,022	R	12	9	No	None	47	75
Memorial Hospital +[1]	South Bend	NPAssn	217	8,305	R	12	6	No	Req	42	100
St Joseph's Hospital[1]	South Bend	Church	184	7,258	R	12 24	6	No	Req	39	100
St Anthony's Hospital[1]	Terre Haute	Church	196	6 179	R	12	4	No	None	24	150
Union Hospital +[1]	Terre Haute	NPAssn	166	5,113	R	12	4	No	None	23	150
IOWA											
Mercy Hospital X43	Cedar Rapids	Church	204	7,078	R	12	4	No	None	28	100
St Luke's Methodist Hospital[1]	Cedar Rapids	Church	200	8,334	R	12	6	No	None	38	100
Jennie Edmundson Memorial Hospital[1]	Council Bluffs	NPAssn	135	5 452	R		3	No	None	24	75
Mercy Hospital[1]	Council Bluffs	Church	185	5,557	R	12	4	No	None	33	100
Mercy Hospital[1]	Davenport	Church	276	8 706	R	12	6	No	Req	22	75
Broadlawns Polk County Hospital +[1]	Des Moines	County	167	4 732	R	12	12	No	Req	40	75
Iowa Lutheran Hospital[1]	Des Moines	Church	135	5,713	R	12	5	(136)	Req	18	125
Iowa Methodist Hospital +[1]	Des Moines	Church	312	11,548	R	12	10	No	Req	68	75
Mercy Hospital +[1]	Des Moines	Church	190	10,031	R	12 24	8	(161)	Req	53	150
University Hospitals +[1-3] X28	Iowa City	State	891	20,565	R	12	20	No	Req	68	35
St Joseph Mercy Hospital[1]	Sioux City	Church	250	9,391	R	12	3	No	Req	14	175
KANSAS											
Bethany Hospital[1]	Kansas City	Church	150	6,456	R	12	4	No	Req	82	100
Providence Hospital[1]	Kansas City	Church	140	5 594	R	12	4	No	Req	43	100
St Margaret's Hospital +[1]	Kansas City	Church	201	5,516	R	12	6	No	None	45	125
University of Kansas Medical Center +[1] X29	Kansas City	State	400	8,423	R	12 24	15	No	Req	69	25
St Francis Hospital +[1]	Wichita	Church	470	15 465	R	12	12	No	None	38	100
Wesley Hospital +[1]	Wichita	Church	370	13 619	R	12	12	(114)	Req	30	75
Wichita Hospital[1]	Wichita	Church	140	3,796	R	12	6	(197)	Req	43	150
KENTUCKY											
St Elizabeth Hospital[1]	Covington	Church	312	9 202	R	12	10	No	Req	26	125
Good Samaritan Hospital +[1]	Lexington	Church	285	9 615	R	12	6	No	None	29	75
St Joseph Hospital +[1]	Lexington	Church	320	10 665	R	12	8	No	None	53	75
Kentucky Baptist Hospital	Louisville	Church	285	10,440	R	12	10	No	None	27	50
Louisville General Hospital +[1] X30	Louisville	CyCo	381	9 492	R	12	23	(115)	Req	34	20
Norton Memorial Infirmary +	Louisville	NPAssn	280	7,806	R	12	6	No	None	37	50
St Anthony's Hospital	Louisville	Church	219	7,395	R	12	3	No	None	32	125
St Joseph Infirmary +[1]	Louisville	Church	400	13 249	R	12	12	No	Req	43	50
SS Mary and Elizabeth Hospital	Louisville	Church	175	7,626	R	12	4	(198)	None	30	100
LOUISIANA											
Baptist Hospital +[1]	Alexandria	Church	210	8,101	R	12	6	No	Req	19	100
Charity Hospital of Louisana +[1-3] X31 32	New Orleans	State	3,195	50 665	R	12	122	No	Req	40	10
Hotel Dieu Sisters Hospital +[1]	New Orleans	Church	295	11,530	R	12	12	No	None	55	50
Mercy Hospital-Soniat Memorial	New Orleans	Church	125	4 788	R	12	6	No	None	33	100
Southern Baptist Hospital +[1]	New Orleans	Church	350	13 833	R	12	12	No	None	38	50
Touro Infirmary +[1] x32	New Orleans	NPAssn	372	14 355	R	12	23	No	Req	60	10
Shreveport Charity Hospital +[1]	Shreveport	State	650	15,439	R	12	36	No	None	42	20
MAINE											
Eastern Maine General Hospital +[1]	Bangor	NPAssn	292	8 178	R	12	8	No	Req	37	25
Central Maine General Hospital +[1]	Lewiston	NPAssn	235	5 615	R	12	6	No	Req	50	25
St Mary's General Hospital[1]	Lewiston	Church	155	4,214	R	12	3	No	Req	38	80
Maine General Hospital +[1]	Portland	NPAssn	363	9,751	R	12 24	12	No	Req	41	25
MARYLAND											
Baltimore City Hospitals +[1-3] x33 X34	Baltimore	City	1,044	6 782	R S	12	42	No	Req	79	15
Bon Secours Hospital +	Baltimore	Church	150	4,005	R	12	3	No	Req	33	30
Church Home and Hospital +[1]	Baltimore	Church	166	5,192	R S	12	5	No	Req	66	25
Franklin Square Hospital +[1]	Baltimore	NPAssn	208	6 023	R	12	12	(265)	Req	58	50
Hospital for Women +[1]	Baltimore	NPAssn	120	4 692	R	12	5	(116)	Req	47	50
Johns Hopkins Hospital +[1-3] X33	Baltimore	NPAssn	981	18,783	S	12	88	No	Req	75	
Maryland General Hospital +[1]	Baltimore	Church	232	6,212	R	12	6	No	Req	41	25
Mercy Hospital +[1] X34	Baltimore	Church	295	9,395	R	12	14	No	Req	46	25
Provident Hospital and Free Dispensary +[1-3]	Baltimore	NPAssn	130	3,266	R	12	8	No	Req	30	50
St Agnes Hospital +[1]	Baltimore	Church	221	7 086	R	12	4	No	Req	56	50
St Joseph's Hospital +[1]	Baltimore	Church	250	7,276	R	12	8	No	Req	29	30
Sinai Hospital +[1]	Baltimore	NPAssn	307	10 103	R S	12	22	No	Req	59	10
South Baltimore General Hospital +[1]	Baltimore	NPAssn	156	5,155	R	12	6	No	Req	63	60
Union Memorial Hospital +[1]	Baltimore	NPAssn	342	8 801	R	12	17	No	Req	55	
University Hospital +[1-3] X34	Baltimore	State	435	11 072	R	12	24	No	Req	55	
West Baltimore General Hospital +[1-3]	Baltimore	NPAssn	187	6 252	R	12	7	(117)	Req	61	50
Washington County Hospital[1]	Hagerstown	NPAssn	158	6,682	R	12	6	No	None	18	75
Peninsula General Hospital[1]	Salisbury	NPAssn	177	6 873	M	24	8	No	Req	38	50
MASSACHUSETTS											
Beverly Hospital +[1]	Beverly	NPAssn	166	5,290	R	12	4	No	Req	86	50
Beth Israel Hospital +[1] X36 37	Boston	NPAssn	199	5,909	S	12	13	(118)	Req	67	
Boston City Hospital +[1-3] X35 36 37	Boston	City	2,378	30 172	S	12	77	No	Req	43	70
Carney Hospital + X37	Boston	Church	228	6 182	S	12	5	(191)	Req	41	25
Children's Hospital +[1-3] X36 x37	Boston	NPAssn	345	9,460	S	12	1	(138)	None	86	
Faulkner Hospital +[1]	Boston	NPAssn	144	3,768	M	24	3	(119)	None	76	25
Massachusetts General Hospital-X36	Boston	NPAssn									
Massachusetts Memorial Hospital +[1-3] X35	Boston	NPAssn	437	8,430	S	6-12	18	(245)	Req	65	
New England Hospital for Women and Children+[2] x37	Boston	NPAssn	193	4,561	R	12	8	No	Req	58	

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
MASSACHUSETTS—Continued											
Peter Bent Brigham Hospital +[1] X36	Boston	NPAssn	250	4,991	S	12	26	(100)	Req	69	
St Elizabeth's Hospital +[1] X37	Boston	Church	256	9,461	R	12	8	No	Req	62	50
Brockton Hospital [1]	Brockton	NPAssn	150	3,083	R	12	4	No	Req	44	50
Cambridge City Hospital +[1] x37	Cambridge	City	270	5,822	R	12	8	No	Req	40	40
Mount Auburn Hospital +[1] x36 37	Cambridge	NPAssn	222	7,036	R	12	6	No	Req	60	
Truesdale Hospital +[1]	Fall River	NPAssn	170	4,457	R	12	6	No	Req	52	50
Burbank Hospital [1]	Fitchburg	City	250	5,807	R	12	4	No	Req	26	150
Holyoke Hospital +[1]	Holyoke	NPAssn	140	3,740	R	12	3	No	Req	20	25
St John's Hospital [1]	Lowell	Church	189	5,401	R	12 24	4	No	Req	20	100
St Joseph's Hospital	Lowell	Church	135	4,843	R	12	2	No	Req	16	100
Lynn Hospital +[1]	Lynn	NPAssn	242	7,819	R	12	6	No	Req	42	50
St Luke's Hospital [1]	New Bedford	NPAssn	295	9,817	R	12	6	No	Req	39	25
Newton Wellesley Hospital +[1]	Newton Lower Falls	NPAssn	240	6,225	R	12 24	6	No	Req	55	25
Pittsfield General Hospital	Pittsfield	NPAssn	189	4,839	R	12	2	No	Req	25	
Quincy City Hospital +[1]	Quincy	City	265	8,493	R	12	12	No	Req	58	100
Salem Hospital +[1]	Salem	NPAssn	233	7,522	R	12	6	No	Req	39	30
Mercy Hospital [1]	Springfield	Church	340	10,166	R	12	8	No	Req	39	40
Springfield Hospital +[1]	Springfield	NPAssn	251	7,561	R	12	8	(139)	Req	43	
Waltham Hospital [1]	Waltham	NPAssn	174	4,667	R	12	4	No	Req	72	125
Memorial Hospital +[1][2]	Worcester	NPAssn	269	8,106	R	12 24	10	No	Req	55	50
St Vincent Hospital +	Worcester	Church	240	7,418	S	12	8	No	Req	42	25
Worcester City Hospital +[1] x37 75	Worcester	City	480	11,913	R	24	20	No	Req	42	50
MICHIGAN											
St Joseph's Mercy Hospital +[1]	Ann Arbor	Church	250	8,282	R	12	8	No	Req	67	100
University Hospital +[1][2] X38	Ann Arbor	State	970	17,041	R	12	50	No	Req	78	88.43
Community Hospital [1]	Battle Creek	NPAssn	100	4,870	R	12	2	No	None	24	100
Leila Y Post Montgomery Hospital +	Battle Creek	Church	175	7,084	R	12	2	No	Req	33	100
Charles Godwin Jennings Hospital +[1]	Detroit	NPAssn	83	3,048	R	12	4	(162)	None	40	125
City of Detroit Receiving Hospital +[1] X39	Detroit	City	502	19,323	R	12	40	(247)	Req	54	155.33
Detroit Memorial Hospital	Detroit	NPAssn	340	11,461		12	12			42	75
Evangelical Deaconess Hospital +[1]	Detroit	Church	185	7,098	R	12	6	No	Req	32	125
Grace Hospital +[1]	Detroit	NPAssn	641	24,243	R	12	18	No	Req	42	50
Harper Hospital +[1]	Detroit	NPAssn	547	21,361	R	12	36	(163)	Req	33	110
Henry Ford Hospital +[1][2]	Detroit	NPAssn	600	18,320	R	12	30	No	None	67	150
Mount Carmel Mercy Hospital +[1]	Detroit	Church	400	17,093	R	12	12	(140)	Req	31	100
Providence Hospital +	Detroit	Church	323	16,924	R	12	16	(120)	Req	50	125
St Joseph's Mercy Hospital +[1]	Detroit	Church	161	7,154	R	12	6	(121)	Req	17	100
Woman's Hospital +[1]	Detroit	NPAssn	246	9,779	R	12 24	9	(201)	Req	43	140
Wayne County General Hospital and Infirmary +[1] X39	Eloise	County	3,489	7,172	R	12	24	(141)	Req	28	205
Hurley Hospital +[1]	Flint	City	415	16,721	R	12	16	No	None	33	60
St Joseph Hospital	Flint	Church	230	11,106	R	12	6	No	None	26	150
Blodgett Memorial Hospital +[1]	Grand Rapids	NPAssn	170	6,440	R	12	6	(142)	Req	58	150
Butterworth Hospital +[1]	Grand Rapids	NPAssn	270	14,587	R	12	12	No	Req	65	50
St. Mary's Hospital +[1]	Grand Rapids	Church	256	9,553	R	12	10	No	Req	37	100
Highland Park General Hospital +[1]	Highland Park	City	255	9,312	R	12	10	No	Req	10	100
W A Foote Memorial Hospital [1]	Jackson	City	156	6,745	R	12	2	No	None	40	100
Bronson Methodist Hospital +[1]	Kalamazoo	Church	140	5,926	R	12	4	No	None	65	100
Edward W Sparrow Hospital +[1]	Lansing	NPAssn	231	9,446	R	12	12	(264)	Req	59	250
St Lawrence Hospital [1]	Lansing	Church	255	8,815	R	12	10	(202)	None	52	225
Pontiac General Hospital +[1]	Pontiac	City	192	9,522	R	12	4	(203)	Req	55	50
St Joseph's Mercy Hospital [1]	Pontiac	Church	257	9,843	R	12	6	No	Req	37	175
Saginaw General Hospital +[1]	Saginaw	NPAssn	266	10,765	R	12	4	(242)	Req	66	60
St Mary's Hospital [1]	Saginaw	Church	172	7,490	R	12	4	No	Req	34	200
MINNESOTA											
St Luke's Hospital +	Duluth	NPAssn	266	12,702	R S	12	13	(122)	Req	77	25
St Mary's Hospital +[1]	Duluth	Church	285	10,476	R S	12	12	(204)	Req	66	25
Abbott Hospital +	Minneapolis	Church	126	6,395	R	12	4	(205)	None	51	100
Asbury Hospital +[1]	Minneapolis	Church	150	5,755	R	12	5	(143)	None	4	100
Lutheran Deaconess Home and Hospital +[1]	Minneapolis	Church	160	6,551	M	12	3	No	None	44	50
Minneapolis General Hospital +[1] X40	Minneapolis	City	574	9,005	R	12 24	36	No	Req	56	50
Northwestern Hospital +[1]	Minneapolis	NPAssn	260	10,537	R S	12	12	(206)	None	59	50
St Barnabas Hospital +[1]	Minneapolis	NPAssn	200	9,481	R	12	2	No	Req	72	100
St Mary's Hospital +[1]	Minneapolis	Church	355	13,012	R	12	10	(207)	None	46	75
Swedish Hospital +[1]	Minneapolis	NPAssn	420	14,303	R	12	8	No	None	40	75
University of Minnesota Hospitals +[1] X40	Minneapolis	State	450	10,288	S	12	30	No	Req	81	15
Ancker Hospital +[1] x40	St Paul	Cy Co	850	7,057	R	12	24	No	Req	64	30
Bethesda Hospital [1]	St Paul	Church	162	7,558	R	12	5	(144)	Req	39	100
Charles T Miller Hospital +[1]	St Paul	NPAssn	275	8,029	R	12	10	(145)	Req	63	50
St Joseph's Hospital +[1]	St Paul	Church	256	9,817	R	12	10	(208)	Req	45	85
MISSISSIPPI											
Mississippi Baptist Hospital +	Jackson	Church	255	13,217	R	12	12	(251)	None	21	50
Mercy Hospital Street Memorial +[1]	Vicksburg	Church	125	3,810	R	12	4	No	None	29	50
MISSOURI											
St Louis County Hospital +[1]	Clayton	County	216	3,008	R	12	8	No	Req	9	50
Kansas City General Hospital No 1 +[3] x29	Kansas City	City	550	10,315	R	12	26	No	Req	68	25
Kansas City General Hospital No 2 +[1]	Kansas City	City	269	4,249	R	12	12	(164)	Req	41	25
Menorah Hospital +[1]	Kansas City	NPAssn	160	6,049	R	12	5	No	None	50	100
Research Hospital +[1]	Kansas City	NPAssn	211	7,685	R	12	8	No	Req	51	50
St Joseph Hospital +	Kansas City	Church	321	12,575	R	12	7	No	Req	58	100
St Luke's Hospital +[1]	Kansas City	Church	375	11,307	R	12	8	No	None	78	50
St Mary's Hospital +[1]	Kansas City	Church	150	6,494	R	12	5	No	None	56	75
Trinity Lutheran Hospital	Kansas City	Church	130	5,196	R	12			None	53	100
Missouri Methodist Hospital +[1]	St Joseph	Church	300	6,026	R	12	4	No	Req	29	150
St. Joseph's Hospital [1]	St Joseph	Church	148	5,388	R	12	2	No	None	23	125
Barnes Hospital +[1-3] X42	St Louis	NPAssn	583	16,827	S	12	20	(224)	Req	74	10
Christian Hospital	St Louis	NPAssn	125	3,954	M	12	2	No	None	43	75
De Paul Hospital +[1]	St Louis	Church	269	8,931	R	12	9	No	Req	28	50
Evangelical Deaconess Hospital [1]	St Louis	Church	250	9,047	R	12	8	No	Req	41	75
Homer G Phillips Hospital +[1-3] x42 X69	St Louis	City	604	13,977	R	12	36	(123)	Req	26	73
Jewish Hospital +[1]	St Louis	NPAssn	228	8,788	R	12	14	No	Req	23	35
Lutheran Hospital	St Louis	Church	165	5,852	R	12	6	No	None	36	100

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
MISSOURI—Continued											
Missouri Baptist Hospital +[1]	St Louis	Church	450	13 282	R	12	10	No	None	26	35
St Anthony's Hospital +[1] x41	St Louis	Church	250	8,698	R	12	8	(209)	Req	44	75
St John's Hospital + x41	St Louis	Church	346	9,965	R	12	12	(249)	Req	41	50
St Louis City Hospital +[1-3] X41 x42	St Louis	City	1,059	17,673	R-S	12	56	No	Req	53	73
St Luke's Hospital +[1]	St Louis	Church	184	5,368	R	12	6	No	Req	47	50
St Mary's Group of Hospitals +[1-3] X41	St Louis	Church	370	10,055	R	12	32	No	Req	46	15
St Mary's Infirmary + x41	St Louis	Church	146	3,700	R	12	4	No	None	28	25
MONTANA											
St James Hospital +	Butte	Church	160	4,941	R	12	3	No	Req	34	125
Montana Deaconess Hospital +	Great Falls	Church	190	5 955	R	12	6	No	Req		50
NEBRASKA											
Bryan Memorial Hospital	Lincoln	Church	130	4 780	R	12	4			58	100
Lincoln General Hospital +[1-3]	Lincoln	NP Assn	183	6 430	R	12	4	No	Req	59	
St Elizabeth Hospital [1-3] x43	Lincoln	Church	220	7,862	R	12	4	No	None	29	100
Bishop Clarkson Memorial Hospital +[1] X44	Omaha	Church	167	6,149	R	12	4	No	Req	57	50
Creighton Memorial St Joseph's Hospital +[1] X43	Omaha	Church	450	13,128	R	12	18	(225)	Req	34	50
Immanuel Deaconess Institute X44	Omaha	Church	123	4,772	R	12	4	No	None	50	50
Nebraska Methodist Hospital +[1]-X44	Omaha	Church	167	6 124	R	12	5	No	Req	51	50
St Catherine's Hospital [1]-X43	Omaha	Church	165	6,105	R	12	8	(146)	None	31	55
University of Nebraska Hospital +[1-3] X44	Omaha	State	242	3,553	R	12	12	No	Req	87	40
NEW HAMPSHIRE											
Mary Hitchcock Memorial Hospital +[1]	Hanover	NPAssn	207	5 030	R	12	11	No	None	74	8 33
NEW JERSEY											
Atlantic City Hospital +[1]	Atlantic City	NPAssn	268	8 206	R	12	12	(226)		38	50
Bayonne Hospital and Dispensary +[1]	Bayonne	NPAssn	250	7,375	R	12	5	No	Req	28	125
Cooper Hospital +[1] x62 64	Camden	NP Assn	380	11,470	R	12	12	No	Req	66	50
West Jersey Hospital +[1]	Camden	NPAssn	279	9,083	R	12	8	(239)	Req	46	100
East Orange General Hospital [1]	East Orange	NPAssn	119	4,027	R	12	4	(126)	Req	85	50
Elizabeth General Hospital and Dispensary [1]	Elizabeth	NPAssn	202	6,673	R	12	6	No	Req	19	100
St. Elizabeth Hospital [1]	Elizabeth	Church	229	7,208	R	12	6	No	Req	18	100
Englewood Hospital +[1]	Englewood	NPAssn	190	6,518	R	12	6	No	Req	34	50
Hackensack Hospital +[1]	Hackensack	NP Assn	250	11,893	R	12	10	No	Req	36	50
Christ Hospital [1]	Jersey City	Church	221	6 063	R	12	12	No	Req	63	100
Jersey City Hospital +[1-3]	Jersey City	City	1,600	24,331	R	12 24	60	(165)	Req	21	25
Monmouth Memorial Hospital +[1-3]	Long Branch	NPAssn	253	7,645	M	12	10	No	Req	36	100
Mountainside Hospital +[1]	Montclair	NPAssn	304	7,961	R	12 24	8	No	Req	51	54 16
All Souls Hospital	Morristown	Church	123	3,559	R	12	3	No	Req	33	100
Morristown Memorial Hospital [1]	Morristown	NPAssn	122	3,708	R	12	4	No	Req	22	110
Fitkin Memorial Hospital +[1]	Neptune	NPAssn	234	7,237	R	12	8	No	Req	27	50
Hospital of St Barnabas and for Women and Children +[1]	Newark	Church	211	7,061	R	12	8	No	Req	50	50
Newark Beth Israel Hospital +[1-3]	Newark	NPAssn	365	11,501	R	12	12	No	Req	48	25
Newark City Hospital +[1-3]	Newark	City	700	12,528	R	12	13	No	None	73	30
St Michael's Hospital +	Newark	Church	405	11,482	R	12	6	No	Req	36	75
St Peter's General Hospital [1]	New Brunswick	Church	188	7,966	R	12	5	No	Req	62	100
Orange Memorial Hospital +[1]	Orange	NPAssn	300	9,543	R	12	8	No	Req	25	35
Passaic General Hospital [1]	Passaic	NPAssn	247	7,270	R	12	6	No	Req	50	75
St Mary Hospital [1]	Passaic	Church	190	6 373							
Nathan and Miriam Barnert Memorial Hospital [1]	Paterson	NPAssn	121	3,951	R	12	6	No	Req	29	75
Paterson General Hospital +[1]	Paterson	NPAssn	372	9 698	R	12	8	No	Req	45	50
St Joseph Hospital +[1]	Paterson	Church	365	8,895	R	12	10	No	Req	21	100
Perth Amboy General Hospital [1]	Perth Amboy	NPAssn	229	7,788	R	12	5	No	None	16	75
Muhlenberg Hospital +[1]	Plainfield	NPAssn	270	9,306	R	12	8	No	Req	35	50
Overlook Hospital [1]	Summit	NPAssn	145	4,498	R	12	4	No	Req	39	50
Holy Name Hospital [1]	Teaneck	Church	182	5 739	R	12 24	6	No	Req	47	100
Mercer Hospital +[1]	Trenton	NPAssn	246	7,655	R	12	8	No	Req	38	100
St Francis Hospital +[1]	Trenton	Church	300	8,370	R	12	8	No	Req	84	75
William McKinley Memorial Hospital	Trenton	NPAssn	118	5,465	R	12	4		Req	46	
North Hudson Hospital [1]	Weehawken	NPAssn	166	3,032	R	12	4	(147)	Req	24	100
NEW YORK											
Albany Hospital +[1-3] X45	Albany	NPAssn	541	15,296	R S	12 24-36	31	No	Req	56	
Memorial Hospital [1]	Albany	NPAssn	137	3,748	R	12 24	6	No	Req	44	125
St Peter's Hospital [1]	Albany	Church	275	5,681	R	12	6	(227)	Req	30	75
Auburn City Hospital	Auburn	NPAssn	238	787						33	
Binghamton City Hospital +[1-3]	Binghamton	City	404	10,537	R	12	8	No	Req	38	100
Beth El Hospital +[1]	Brooklyn	NPAssn	242	8,293	R S	12 24	12	No	Req	50	50
Brooklyn Hospital +[1] X46	Brooklyn	NPAssn	332	9 023	R	12	9	No	Req	53	20
Coney Island Hospital +[1-3]	Brooklyn	City	270	5,928	R	12	20	No	Req	26	50
Cumberland Hospital +[1-3]	Brooklyn	City	284	7,039	R S	12 24	27	No	Req	47	35 42
Greenpoint Hospital +[1-3]x46	Brooklyn	City	296	6,270	R S	12	20	No	Req	33	50
Jewish Hospital +[1-3]-X46	Brooklyn	NPAssn	500	15,465	R S	12	38	No	Req	33	15
Kings County Hospital +[1-3] X46	Brooklyn	City	2,509	63,486	R S	12 24	131	No	Req	22	25
Long Island College Hospital +[1] X46	Brooklyn	NPAssn	364	10,925	S	12	19	(160)	Req	33	4 02
Maimonides Hospital +[1] X56	Brooklyn	NPAssn	500	13,058	S	12	28	(228)	Req	40	35
Methodist Hospital +[1] x46	Brooklyn	Church	456	9,781	R M	24	10	No	Req	51	
Norwegian Lutheran Deaconesses' Home and Hospital +[1]	Brooklyn	Church	210	7,302	R	12	6	No	Req	53	50
St Catherine's Hospital +[1]	Brooklyn	Church	287	7,424	R S	24	14	No	Req	37	35
St John's Hospital +[1]	Brooklyn	Church	230	4,802	R S	12	9	No	Req	31	25
St Mary's Hospital +	Brooklyn	Church	237	6 192	R S	24	10	No	Req	37	45
St Peter's Hospital	Brooklyn	Church	170	3,053	R	12	6	No	Req	23	100
Unity Hospital +[1]	Brooklyn	NPAssn	226	6,516	R	12	8	No	Req	23	100
Wyckoff Heights Hospital +[1]	Brooklyn	NPAssn	169	5 708	R	15	4	No	Req	30	50
Buffalo General Hospital +[1-3] X47	Buffalo	NPAssn	448	11 558	S	12	18	(244)	Req	46	
Deaconess Hospital +[1]	Buffalo	NPAssn	277	9 491	R	12	8	No	Req	30	85
Edward J Meyer Memorial Hospital +[1-3] X47	Buffalo	County	858	10 609	R	12	24	(266)	Req	42	100
Mercy Hospital +[1]	Buffalo	Church	300	8,421	R	12	10	No	Reg	22	80
Millard Fillmore Hospital +[1-3]-X47	Buffalo	NPAssn	473	14 106	R	12	10	No	Req	49	25
Sisters of Charity Hospital +[1]	Buffalo	Church	376	11,753	R	12	17	No	Req	25	75
Mary Imogene Bassett Hospital +[1] x45-X48	Cooperstown	NPAssn	75	2,715	R	12	10	No	Req	63	50
Arnot Ogden Memorial Hospital	Elmira	NPAssn	197	7,043	R M-S	12 24	8	No	Req	38	75
St Joseph's Hospital [1]	Elmira	Church	253	6 735	R	12	3	(124)	None	36	150

NEW YORK—Continued

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
Ideal Hospital [1]	Endicott	City	96	3 107	R	12	2	No	None	35	125
Flushing Hospital and Dispensary +[1-3]	Flushing	NPAssn	282	10 172	R	12 24	9	No	Req	38	100
North Country Community Hospital	Glen Cove	NPAssn	105	3 881	R	12	4	No	Req	49	100
Glens Falls Hospital [1]	Glens Falls	NPAssn	250	7 482	R	12	6	No	None	18	125
Meadowbrook Hospital +[1-3]	Hempstead	County	250	6 825	R	12 24	12	No	Req	48	50
Jamaica Hospital +[1]	Jamaica	NPAssn	185	6 274	R	12	8	No	Req	21	75
Mary Immaculate Hospital +[1 3]	Jamaica	Church	273	8 889	R S	12	9	No	Req	25	45
Queens General Hospital +[1 2] X50	Jamaica	City	705	14,593	R S	24	39	No	Req	47	25
Charles S Wilson Memorial Hospital +[1]	Johnson City	NPAssn	360	9 300	R	12	9	No	Req	46	100
Our Lady of Victory Hospital [1]	Lackawanna	Church	175	5 450	R	12 24	5	No	Req	13	150
St. John's Long Island City Hospital +[1 3]	Long Island City	Church	230	6 246	R	12	14	No	Req	48	50
Nassau Hospital +[1]	Mineola	NPAssn	227	8 509	R	12	4	No	None	30	50
Mount Vernon Hospital +[1]	Mount Vernon	NPAssn	219	7,603	R	12	6	No	Req	46	75
St Luke's Hospital [1-3]	Newburgh	NPAssn	186	6 072	R	12	5	No	Req	21	100
New Rochelle Hospital +[1]	New Rochelle	NPAssn	310	9,213	R	12	10	No	Req	40	100
Bellevue Hospital X 48-49 51	New York City	City									
Division I—Columbia University +[1]			105	2 454	M	12 24	12	No	Req		25
Division II—Cornell University +[1]					M S	12	15	No	Req		45
Division III—New York University +[1]											
Division IV—New York University +[1]											
Beth David Hospital +x 50	New York City	NPAssn	107	4,542	R	12	14	No	None	24	50
Beth Israel Hospital +[1 3]	New York City	NPAssn	326	9 205	R	12	12	No	None	48	25
Bronx Hospital +[1 2]	New York City	NPAssn	379	8 962	R S	12	16	No	Req	32	35
Columbus Hospital	New York City	Church	260	5 554	R	12	12	No	None	11	75
Flower and Fifth Avenue Hospitals +[1-3] X50	New York City	NPAssn	337	9 036	S	12	13	No	Req	32	
Fordham Hospital +[1]	New York City	City	446	11 909	R	12	24			23	50
French Hospital +[1]	New York City	NPAssn	251	6 450	R S	24	9	(167)	Req	29	20
Goldwater Memorial Hospital +[1 3] X48 x51	New York City	City	1,500	1 745	M	12	9	No	Req	37	30
Gouverneur Hospital +[1-3]	New York City	City	172	3,387	R	12	6	(229)	Req	22	50
Harlem Hospital +[1-3]	New York City	City	846	21 891	R	12	58	No	None	22	35 42
Hospital for Joint Diseases +[1 3]	New York City	NPAssn	862	5,628	R	12 24	12	(168)	Req	49	25
Jewish Memorial Hospital +[2]	New York City	NPAssn	185	5 743	R	12	12	No	Req	42	50
Knickerbocker Hospital +[1]	New York City	NPAssn	101	4 418	M	12	6	No	Req	24	50
Lebanon Hospital +[1]	New York City	NPAssn	207	6 501	R	12 24	12	No	None	42	50
Lenox Hill Hospital +[1 3] x51	New York City	NPAssn	530	12 015	R	24	24	No	Req	41	
Lincoln Hospital +[1-3]	New York City	City	391	12 143	R	12	15	No	Req	28	35
Metropolitan Hospital +[1 3] X50	New York City	City	1 060	13 158	R	24	38	No	Req	27	30
Misericordia Hospital +	New York City	Church	181	5 312	R	12	7	No	Req	31	50
Montefiore Hospital for Chronic Diseases +[1 3] X48	New York City	NPAssn	594	4,367	M S	12	14	No	Req	46	25
Morrisania City Hospital +[1-3] X50	New York City	City	466	12 142	R	12	29	No	Req	23	80
Mother Cabrini Memorial Hospital [1]	New York City	Church	175	3,548	M	18-24	8	No	Req	26	50
Mount Sinai Hospital +[1-3] x48	New York City	NPAssn	783	16 059	R	12	24	No	Req	50	25
New York City Hospital +[1 3] X50	New York City	City	623	12,947	R S	12 24	30	No	Req	34	35 40
New York Hospital +[1 2] X49	New York City	NPAssn	1 074	20 904	S	12	36	No	Req	72	
New York Infirmary +[1-3]	New York City	NPAssn	121	3,380	R	12	6	No	Req	51	30
New York Polyclinic Medical School and Hospital +[3]	New York City	NPAssn	374	9,599	R	12	8	No	Req	41	25
Presbyterian Hospital +[1-3]	New York City	NPAssn	1 424	30 220	M S	18-24	26	No	Req	50	
Roosevelt Hospital +[1] X48	New York City	NPAssn	410	8 748	M	12 24	12	No	Req	44	45
St. Clare's Hospital +[1]	New York City	Church	440	10,138	R	12	13	No	Req	45	10
St Francis Hospital +[1]	New York City	Church	350	7,342	R	12	8	No	Req	17	50
St Luke's Hospital +[1-3] X48	New York City	NPAssn	520	9 830	M	12	9	No	Req	72	
St Vincent's Hospital +[1] x51	New York City	Church	440	11,523	R	12	20	No	Req	44	
Sydenham Hospital +[1 3]	New York City	NPAssn	208	5,074	R	12	12	No	Req	45	50
University Hospital +[1-3]	New York City	NPAssn	403	9 009	M	12	6	No	Req	41	50
Mount St Mary's Hospital [1]	Niagara Falls	Church	234	7 071	R	12	2			30	
United Hospital +[1]	Port Chester	NPAssn	182	6 136	R	12	6	No	Req	34	100
St. Francis Hospital [1]	Poughkeepsie	Church	107	3 311	M	12	2	No	None	52	200
Vassar Brothers Hospital	Poughkeepsie	NPAssn	207	6 884	R	12	5	No	Req	34	75
Genesee Hospital +[1] x52	Rochester	NPAssn	226	7 877	S	12	8	No	Req	58	15
Highland Hospital +[1]	Rochester	NPAssn	200	7 090	R	12	9	No	Req	43	45
Rochester General Hospital +[1]	Rochester	NPAssn	324	12 442	R	12	22	(211)	Req	65	40
St. Mary's Hospital +[1]	Rochester	Church	325	13 083	R	12	6	No	Req	41	50
Strong Memorial—Rochester Municipal Hospitals +[1] X52	Rochester	NPAssn	747	10 010	R M S	12 24	43	No	Req	71	15
Ellis Hospital +[1] X45	Schenectady	NPAssn	400	15,567	R	12	12	No	Req	44	60
St. Vincent's Hospital +	Staten Island	Church	211	7 682	R	12	8	No	Req	24	100
Crouse Irving Hospital +[1] x53	Syracuse	NPAssn	215	7 554	R	12	4	No	None	28	125
General Hospital +[1] x53	Syracuse	NPAssn	129	4 951	M	12	4	No	Req	35	25
St Joseph's Hospital [1] x53	Syracuse	Church	202	7 145	R	12 24	6	No	Req	25	35
Syracuse University Medical Center Hospitals											
Hospital of the Good Shepherd +[1] X53	Syracuse	NPAssn	199	4 586	R	12	10	(230)	None	44	100
Syracuse Memorial Hospital +[1] X53	Syracuse	NPAssn	283	9 195	R	12	7	No	None	51	100
St. Mary's Hospital [1]	Troy	Church	244	6 359	R	12	6	No	Req	26	75
Samaritan Hospital +[1]	Troy	NPAssn	107	5,266	R	12	6	No	Req	33	75
Grasslands Hospital [1-3]	Valhalla	County	600	4 489	R	12	20	No	Req	55	25
St Agnes Hospital	White Plains	Church	138	3 762	R	12	4	No	Req	41	100
White Plains Hospital +[1]	White Plains	NPAssn	188	6 910	R	12	3	No	Req	60	50
St John's Riverside Hospital [1]	Yonkers	NPAssn	188	5 869	R	12	7	No	Req	29	100
St. Joseph's Hospital [1]	Yonkers	Church	183	3 499	R	12	6	No	Req	27	100
Yonkers General Hospital [1]	Yonkers	NPAssn	143	6 112	R	12	5	No	Req	19	100

NORTH CAROLINA

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
Charlotte Memorial Hospital +[1]	Charlotte	NPAssn	370	11 000	R	12	10	No	Req	65	40
Duke Hospital +[1] X54	Durham	NPAssn	549	13,952	M S	12	43	(169)	Req	60	
Lincoln Hospital [1]	Durham	NPAssn	99	2,596	R	12	4	(231)	Req	49	50
Watts Hospital +[1]	Durham	NPAssn	200	8 668	R S	12	16	No	Req	50	25
Rex Hospital +[1]	Raleigh	NPAssn	306	11 122	R	12	12	No	Req	27	105
St. Agnes Hospital [1]	Raleigh	Church	114	3 601	R	12	4	No	Req	28	75
James Walker Memorial Hospital +[1]	Wilmington	NPAssn	300	9 930	R	12 24	8	No	Req	34	100
Kate Bitting Reynolds Memorial Hospital +[1]	Winston Salem	City	205	6 393	R	12	8	(170)	Req	21	100
North Carolina Baptist Hospital +[1 3] X55	Winston Salem	Church	250	8 870	S	12	17	No	Req	67	

NORTH DAKOTA

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
St John's Hospital [1]	Fargo	Church	180	6 634	R	12	6	No	Req	34	75
St Luke's Hospital +[1]	Fargo	Church	127	5 470	R	12	4	No	Req	52	50
Grand Forks Deaconess Hospital [1]	Grand Forks	NPAssn	140	5,242	R	12	6	No	Req	42	100
Trinity Hospital +	Minot	Church	188	6 154	R	12	4	No		65	50

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
OHIO											
City Hospital +	Akron	NPAssn	418	14,858	R	12	15	(213)	Req	42	30
Peoples Hospital +[1]	Akron	NPAssn	210	9,981	R	12	6	(171)	Req	51	50
St Thomas Hospital +	Akron	Church	205	11 034	R	12	6	No	Req	45	75
Aultman Hospital +[1]	Canton	NPAssn	301	10,363	R	12	10	No	Req	65	50
Mercy Hospital +[1]	Canton	Church	235	10 662	R	12	8	No	Req	36	75
Bethesda Hospital	Cincinnati	Church	218	8 690	R	12	8	(172)	Req	45	75
Christ Hospital +	Cincinnati	Church	372	11,260	R	12	16	(172)	Req	43	50
Cincinnati General Hospital +[1-3] X56	Cincinnati	City	850	15,449	R S	12	48	(267)	Req	54	
Deaconess Hospital +[1]	Cincinnati	Church	168	5,112	R	12	5	(173)	Req	26	100
Good Samaritan Hospital +[1]	Cincinnati	Church	556	16,783	R	12	18	No	Req	48	60
Jewish Hospital +[1]	Cincinnati	NPAssn	264	12,763	R	12	10	(232)	No	65	50
St Mary's Hospital +[1]	Cincinnati	Church	200	5,001	R	12	5	No	Req	31	75
City Hospital +[1-3] X57	Cleveland	City	1,044	11 457	R	12	24	No	Req	41	40
Evangelical Deaconess Hospital [1]	Cleveland	Church	140	6 615	R	12	3	No	None	18	75
Fairview Park Hospital	Cleveland	Church	150	9,102	R	12	6		Req	37	75
Glenville Hospital [1]	Cleveland	NPAssn	120	4,474	M	12	4	No	Req	32	75
Lutheran Hospital +[1]	Cleveland	Church	133	5,181	R	12	8	No	None	43	50
Mount Sinai Hospital +[1-3]-x57	Cleveland	NPAssn	251	11,441	R S	24	22	(233)	Req	51	50
St Alexis Hospital +[1]	Cleveland	Church	234	10 282	R	12	6	No	Req	33	50
St John's Hospital +[1]	Cleveland	Church	230	8,942	R	12	8	No	None	46	50
St Luke's Hospital +[1-3]	Cleveland	Church	302	14 622	R	12	20	No	Req	42	30
St Vincent's Charity Hospital +[1] x57	Cleveland	Church	296	7,729	R	12	14	(214)	Req	32	50
University Hospitals +[1-3] X57	Cleveland	NPAssn	707	22 380	S	12 24	20	No	Req	58	
Doctors Hospital +	Cleveland Heights	NPAssn	165	6 635	R	12	12		Req	44	100
Grant Hospital +[1]	Columbus	NPAssn	290	10 628	R	12	8	No	None	34	
Mount Carmel Hospital +[1]	Columbus	Church	282	10 789	R	12	8	(174)	None	41	50
Ohio State University Hospital +[1] X58	Columbus	State	279	8,847	R S	24	23	(175)	Req	78	9
White Cross Hospital +[1]	Columbus	Church	350	11 302	R	12	10	No	None	46	50
Miami Valley Hospital +[1]	Dayton	NPAssn	451	15,435	R	12	12	No	Req	45	50
St Elizabeth Hospital +[1]	Dayton	Church	335	12,527	R	12	7	No	Req	39	125
Huron Road Hospital +[1]	East Cleveland	NPAssn	284	10 642	R	12	15	No	Req	40	50
Mercy Hospital +[1]	Hamilton	Church	300	8,769	R	12	6	No	Req	35	100
Lakewood Hospital +[1]	Lakewood	City	129	5 942	R	12	4	No	Req	43	75
Lima Memorial Hospital	Lima	NPAssn	239	6 359	R	12	6	No	None	22	100
St Rita's Hospital +[1]	Lima	Church	300	11 372	R	12	8	No	Req	36	100
Springfield City Hospital [1]	Springfield	City	266	10 915	R	12	7	No	Req	46	100
Flower Hospital [1]	Toledo	Church	170	5,643	R	12	5	(140)	None	30	150
Maumee Valley Hospital +[1]	Toledo	County	292	4,011	R	12	8	No	Req	52	75
Mercy Hospital +	Toledo	Church	284	12 191	R	12	10	No	Req	45	100
Riverside Hospital	Toledo	NPAssn	154	5 694	R	12	4			31	100
St Vincent's Hospital +[1]	Toledo	Church	310	10 990	R	12	10	No	Req	38	100
Toledo Hospital +[1]	Toledo	NPAssn	266	9 495	R	12	10	No	Req	57	75
St Elizabeths Hospital +[1]	Youngstown	Church	330	12,862	R	12	10	No	Req	40	100
Youngstown Hospital +[1-3]	Youngstown	NPAssn	627	20 250	R	12	15	No	Req	55	25
OKLAHOMA											
Mercy Hospital x59	Oklahoma City	Church	150	6 132	R	12	0	(255)	None	24	75
St Anthony Hospital +-X59	Oklahoma City	Church	375	12,700	R	12	10	No	Req	33	50
University Hospitals +[1-3] X59	Oklahoma City	State	450	7 106	R	12	13	No	Req	40	25
Wesley Hospital +[1] x59	Oklahoma City	Part	200	8,673	R	12	8	No	Req	47	75
Hillcrest Memorial Hospital +[1]	Tulsa	NPAssn	258	11,263	R	12	10	No	Req	34	50
St John's Hospital +[1]	Tulsa	Church	425	16 081	R	12	12	No	None	41	100
OREGON											
Emanuel Hospital +[1] x60	Portland	Church	350	13,667	R	12	16	(176)	Req	56	50
Good Samaritan Hospital +[1] x60	Portland	Church	430	14,044	R	12	14	No	None	57	50
Portland Sanitarium and Hospital +[1]	Portland	Church	144	6 602	R	12	6	No	None	37	50
Providence Hospital +[1]-x60	Portland	Church	230	7,908	R	12	6	(150)	Req	55	50
St Vincent's Hospital +[1] x60	Portland	Church	376	10 909	R	12	12	(177)	Req	41	50
University of Oregon Medical School Hospitals and Clinics +[1-3] X60	Portland	State	418	7 202	R	12	16	No	Req	75	50
PENNSYLVANIA											
Abington Memorial Hospital +[1]	Abington	NPAssn	304	8,538	R	12	10	No	Req	35	
Allentown Hospital +[1]	Allentown	NPAssn	362	12,085	R	12	10	No	Req	32	75
Sacred Heart Hospital +[1]	Allentown	Church	376	8,169	R	12	8	No	Req	35	75
Altoona Hospital [1]	Altoona	NPAssn	220	6,233	R	12	7	No	Req	21	100
St Luke's Hospital +[1]	Bethlehem	NPAssn	351	10 469	R	12	12	No	Req	44	75
Bryn Mawr Hospital +	Bryn Mawr	NPAssn	285	8,190	R	12	10	No	Req	56	
Chester Hospital [1]	Chester	NPAssn	235	7,182	R	12	8	No	Op	29	75
George F Geisinger Memorial Hospital and Clinic +[1]	Danville	NPAssn	205	8 674	R	12	10	No	Req	46	20
Fitzgerald-Mercy Hospital x64	Darby	Church	200	7,315	R	12	8	No	Req	54	50
Easton Hospital +[1]	Easton	NPAssn	177	6 142	R	12	6	No	Req	38	75
Hamot Hospital +[1]	Erie	NPAssn	289	9 585	R	12	8	No	Req	57	75
St Vincent's Hospital +	Erie	NPAssn	299	10 915	R	12	8	No	Req	35	50
Westmoreland Hospital +[1]	Greensburg	NPAssn	190	7 232	R	12	6	No	None	36	100
Harrisburg Hospital +[1]-X61	Harrisburg	NPAssn	312	9,584	R	12	12	No	Req	68	100
Harrisburg Polyclinic Hospital +[1]	Harrisburg	NPAssn	258	8 115	R	12	8	No	Req	42	150
Conemaugh Valley Memorial [1]	Johnstown	NPAssn	346	12 970	R	12	12	No	Req	20	100
Nesbitt Memorial Hospital [1]	Kingston	NPAssn	200	6 456	R	12	3	No	Req	21	100
Lancaster General Hospital [1]	Lancaster	NPAssn	248	9 255	R	12	10	No	Req	46	75
St Joseph's Hospital +[1]	Lancaster	Church	232	6 815	R	12	6	No	Req	52	100
McKeesport Hospital [1]	McKeesport	NPAssn	275	8,785	R	12	7	No	Req	36	150
Montgomery Hospital [1]	Norristown	NPAssn	193	6 223	R	12	8	No	Req	28	100
Doctor's Hospital +[1]	Philadelphia	NPAssn	175	4,148	R	12	4	No	Req	51	100
Episcopal Hospital +[1-3] x62-X63 x64	Philadelphia	Church	495	9,046	R	12	16	No	Req	57	
Frankford Hospital +[1]	Philadelphia	NPAssn	142	5,051	R	12	7	No	Req	66	150
Germantown Dispensary and Hospital +[1] x62	Philadelphia	NPAssn	310	8,813	R	12	12	No	Req	57	
Graduate Hospital of the University of Pennsylvania +[3]	Philadelphia	NPAssn	364	8,322	R	12	12	(151)	Req	69	
Hahnemann Hospital +[1] X61	Philadelphia	NPAssn	605	14,037	R	12	24	No	Req	70	
Hospital of the University of Pennsylvania +[1-3] X64	Philadelphia	NPAssn	613	20 337	R	12	20	No	Op	84	
Hospital of the Woman's Medical College +[1] X65	Philadelphia	NPAssn	171	4,854	R	12	6	No	Req	46	
Jefferson Medical College Hospital +[3] X62	Philadelphia	NPAssn	722	21 141	R	24	34	No	Req	55	
Jewish Hospital +[1-3] x61 X63	Philadelphia	NPAssn	467	10,150	R	12	18	(263)	None	53	
Lankenau Hospital +[1]	Philadelphia	NPAssn	260	6,211	R	12	10	No	Req	69	

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
PENNSYLVANIA—Continued											
Memorial Hospital[1]	Philadelphia	NPAssn	117	3 510	R	12	4	No	Req	34	150
Mercy Douglass Hospital +[1]	Philadelphia	NPAssn	100	3 161	R	12	5	No	Req	33	15
Methodist Episcopal Hospital[1] x62	Philadelphia	Church	202	4 403	R	12	8	No	Req	45	50
Misericordia Hospital[1] x65	Philadelphia	Church	220	7,319	R	12	7	No	Req	47	50
Mount Sinai Hospital +[1 3] X61 x62 x65	Philadelphia	NPAssn	259	6 776	R	12	12	No	Req	85	
Nazareth Hospital +[1]	Philadelphia	Church	150	6 468	R	12	6	No	Req	39	75
Pennsylvania Hospital +[3] X62 X64	Philadelphia	NPAssn	433	10 884	R	24	18	(234)	Req	71	
Philadelphia General Hospital +[1 3] X61 62 63 64 65	Philadelphia	City	2 509	20,397	R	24	96	(252)	Req	60	
Presbyterian Hospital +[1] x64	Philadelphia	Church	540	9 657	R	12	10	No	Req	70	
St Joseph's Hospital[1] x62	Philadelphia	Church	200	4 21	R	12	6	No	Req	45	150
St Luke's and Children's Medical Center +[1] x61 62	Philadelphia	NPAssn	2 5	7 003	R	12	9	No	Req	38	75
St Mary's Hospital	Philadelphia	Church	230	5 816	R	12	6	No	Req	48	150
Temple University Hospital +[1] X63	Philadelphia	NPAssn	555	10 466	R	12	10	(152)	None	63	
Woman's Hospital +[1] X65	Philadelphia	NPAssn	137	5 284	R	12	6	No	Req	62	10
Women's Homoeopathic Hospital +[1]	Philadelphia	NPAssn	170	4 590	R	12	6	No	Req	18	175
Allegheny General Hospital +[1] x66	Pittsburgh	NPAssn	554	12 183	R	12	16	No	Req	23	
Mercy Hospital +[1] X66	Pittsburgh	Church	607	14 867	R	12	24	(240)	Req	29	
Montefiore Hospital +[1]	Pittsburgh	NPAssn	247	8 970	R	12	11	No	Req	48	25
Pittsburgh Hospital +[1]	Pittsburgh	NPAssn	225	6 496	R	12	6	No	Req	28	75
Presbyterian Hospital +[1] X66	Pittsburgh	NPAssn	235	5 318	R	12	28	(215)	Req	36	
St Francis Hospital +[1] X66	Pittsburgh	NPAssn	690	13 025	R	12	15	No	Req	22	150
St John's General Hospital[1]	Pittsburgh	NPAssn	107	7 144	R	12	6	No	Req	23	100
St Joseph's Hospital and Dispensary	Pittsburgh	Church	170	4 860	R	12	6	No	Req	51	100
St Margaret Memorial Hospital +[1]	Pittsburgh	Church	122	3 6 7	R	12	4	No	Req	35	75
Shadyside Hospital[1]	Pittsburgh	NPAssn	301	8 697	R	12	10	No	None	24	100
South Side Hospital[1]	Pittsburgh	NPAssn	207	6 703	R	12	7	No	Req	20	100
Western Pennsylvania Hospital +[1]	Pittsburgh	NPAssn	519	13 816	R	12	18	No	Req	28	100
Community General Hospital[1]	Reading	NPAssn	123	4 037	R	12	4	No	Req	81	150
Reading Hospital +[1]	Reading	NPAssn	84	10 457	R	12	10	No	Req	63	100
St Joseph's Hospital +[1]	Reading	Church	201	6 156	R	12	6	No	Req	39	100
Rochester General Hospital[1]	Rochester	NPAssn	137	4 787	R	12	2	No	Req	19	50
Robert Packer Hospital +	Sayre	NPAssn	304	10 451	R	12	10	No	Req	67	
Moses Taylor Hospital[1]	Scranton	NPAssn	120	2 487	R	12	3	(178)	Req	29	100
Scranton State Hospital +[1]	Scranton	State	290	6 232	R	12	9	No	Req	34	128.50
Sewickley Valley Hospital[1]	Sewickley	NPAssn	187	5 671	R	12	7	No	Req	25	200
Uniontown Hospital[1]	Uniontown	NPAssn	215	9 247	R	12	6	No	Req	23	200
Washington Hospital +[1]	Washington	NPAssn	189	6 619	R	12	7	No	Req	22	150
Chester County Hospital +[1]	West Chester	NPAssn	153	4 454	R	12	4	No	Req	46	100
Mercy Hospital +[1]	Wilkes Barre	Church			R	12	6	No	Req		50
Wilkes Barre General Hospital	Wilkes Barre	NPAssn	402	9 648	R	12	10	No	Req	25	50
Columbia Hospital +[1]	Wilkinsburg	Church	171	6 090	R	12	5	No	Req	20	100
Williamsport Hospital +[1]	Williamsport	NPAssn	260	8 731	R	12	8	No	Req	28	100
York Hospital +	York	NPAssn	227	10 178	R	12	8	No	Req	45	100
RHODE ISLAND											
Newport Hospital[1]	Newport	NPAssn	168	5 438	R	12	2	No	Req	31	200
Memorial Hospital[1]	Pawtucket	NPAssn	172	7 945	R	12	6	No	Req	40	50
Rhode Island Hospital +[1]	Providence	NPAssn	569	14 924	R	24	12	No	Req	58	
Roger Williams General Hospital[1]	Providence	NPAssn	162	5 600	R	12	6	No	Req	31	100
St Joseph's Hospital	Providence	Church	310	8 013	R	24	13	(170)	Req	34	100
SOUTH CAROLINA											
Roper Hospital +[1] X67	Charleston	NPAssn	450	12 637	R	12	21	No	Req	52	50
Columbia Hospital +[1]	Columbia	County	444	11 001	R	12	12	No	Req	28	50
McLeod Infirmary[1]	Florence	NPAssn	200	7 845	R	12	6	(125)	Req	23	100
Greenville General Hospital +[1]	Greenville	City	331	12,059	R	12	9	No	Req	24	75
Spartanburg General Hospital[1]	Spartanburg	County	290	11 032	R	12	12	No	Req	26	75
SOUTH DAKOTA											
McKennan Hospital[1]	Sioux Falls	Church	164	7 617	R	12	4	No	None	42	100
Sioux Valley Hospital[1]	Sioux Falls	NPAssn	150	10 402	R	12	8	No	None	36	100
Sacred Heart Hospital[1]	Yankton	Church	230	4,835	R	12	9	No	None	32	
TENNESSEE											
Baroness Erlanger Hospital +[1 2]	Chattanooga	CyCo	400	14 613	R	12	18	(235)	Req	23	60
Fort Sanders Hospital[1]	Knoxville	NPAssn	200	7 650	R	12	8	No	None	29	200
Knoxville General Hospital +[2]	Knoxville	City	285	8 759	R	12	10	No	Req	25	75
St Mary's Memorial Hospital[1]	Knoxville	Church	250	7 112	R	16	10			27	75
Baptist Memorial Hospital +[1]	Memphis	Church	500	19 667	R	12	24	No	Req	37	50
John Gaston Hospital +[3] X68	Memphis	City	489	16 497	R S	12	45	No	Req	66	35
Methodist Hospital +[1]	Memphis	Church	207	12,659	R	12	12	(127)	Req	34	50
St Joseph Hospital +[1]	Memphis	Church	280	10 830	R	12	12	No	Req	24	50
George W Hubbard Hospital +[1-3] X69	Nashville	NPAssn	200	3 773	R	12	8	No	None	39	35
Mid State Baptist Hospital +[1]	Nashville	Church	115	5 234	R	12	6	(153)	Req	26	100
Nashville General Hospital +[1] x70	Nashville	City	260	6 142	R S	12	12	No	Req	39	37.50
St Thomas Hospital +[1]	Nashville	Church	233	12 000	S	12	10	(216)	None	44	100
Vanderbilt University Hospital +[1] X70	Nashville	NPAssn	340	9 495	S	12	25	(248)	Req	54	
TEXAS											
Brackenridge Hospital[1]	Austin	City	237	6 604	R	12	6	No	Req	42	60
Memorial Hospital[1]	Corpus Christi	CyCo	148	5 707	R	12	6	No	Req	26	50
Baylor University Hospital +[1] x71	Dallas	Church	396	17 726	R S	12	30	No	Req	34	37.50
Methodist Hospital +[1] x71	Dallas	Church	208	10 733	R	12	6	No	Req	20	50
Parkland Hospital +[1-3] X71	Dallas	CyCo	357	7 779	M S	12	23	No	Req	60	10
St. Paul's Hospital +[1] x71	Dallas.	Church	310	12,839	R S	12	16	No	Req	31	50
El Paso General Hospital	El Paso	CyCo	200	3 587	R	12	6	No	Req	52	87.50
City County Hospital[1-3]	Fort Worth	CyCo	168	4 655	R	12	8	No	Req	34	50
Harris Hospital +[1]	Fort Worth	Church	308	13,217	R	12	16	No	Req	35	50
St Joseph's Hospital[1]	Fort Worth	Church	243	9 438	R	12	10	No	Req	22	100
University of Texas Medical Branch Hospitals +[1] X72	Galveston	State	656	10 203	R	12	25	No	Req	61	25
Hermann Hospital +[1] X73	Houston	NPAssn	600	10 812	R	12	16	No	Req	54	20
Jefferson Davis Hospital +[1-3] x72 X73	Houston	CyCo	441	12,555	R	12	24	No	Req	37	25
Methodist Hospital +[1] x72 73	Houston	Church	135	4 900	R	12	4	No	None	55	25
St Joseph's Infirmary x72 73	Houston	Church	377	20,835	R	12	12	No	Req	40	50

Abbreviations and other references will be found on pages 1159 and 1160

Name of Hospital	Location	Control	Bed Capacity	Total Patients Admitted	Type of Internship	Length of Service in Months	Internships Offered	Affiliated Service	Outpatient Service	Autopsy Percentage	Stipend per Month
TEXAS—Continued											
Baptist Memorial Hospital [1]	San Antonio	Church	226	12,074	R	12	8	No	Req	24	75
Nix Memorial Hospital [1]	San Antonio	Corp	159	7,480	R	12	8	No	None	21	125
Robert B Green Memorial Hospital [1-3]	San Antonio	County	170	1,537	R	12	12	No	Req	23	100
Santa Rosa Hospital +	San Antonio	Church	825	14,220	R	12	18	No	Req	29	75
Kings Daughters Hospital [1]	Temple	NPAssn	110	2,565	R	12	4	No	Req	21	100
Scott and White Hospital +[1]	Temple	Corp	236	6,031	R	12	9	(236)	Req	43	75
Wichita Falls Clinic Hospital +	Wichita Falls	Part	102	5,192	R	12	3	No	Req	43	150
UTAH											
St Benedict's Hospital [1]-x74	Ogden	Church	165	5,830	M	12	5	No	Req	96	75
Thomas D Dee Memorial Hospital +[1] x74	Ogden	Church	281	8,222	R	12	8	No	Req	34	50
Dr W H Groves Latter Day Saints Hospital +[1] x74	Salt Lake City	Church	309	14,790	R	12	12	(154)	Req	37	50
Holy Cross Hospital +[1] x74	Salt Lake City	Church	193	7,302	R	12	6	No	None	42	50
St Mark's Hospital +[1] x74	Salt Lake City	Church	214	7,649	R S	12	9	No	Req	23	50
Salt Lake County General Hospital +[1] X74	Salt Lake City	County	231	3,802	R M S	12	14	No	Req	68	25
VERMONT											
Bishop DeGoesbriand Hospital +[1-3] X75	Burlington	Church	200	4,251	R	12	5	No	Req	54	50
Mary Fletcher Hospital +[1]-X75	Burlington	NPAssn	103	6,063	R	12	8	No	Req	64	50
VIRGINIA											
Alexandria Hospital +[1]	Alexandria	NPAssn	170	6,239	R	12	6	No	Req	39	75
Arlington Hospital	Arlington	NPAssn									
University of Virginia Hospital +[1] X76	Charlottesville	State	400	14 873	R M	12	26	(237)	Req	59	
Riverside Hospital [1]	Newport News	NPAssn	100	6,781	R	12	6	(180)	Req	37	100
De Paul Hospital +[1]	Norfolk	Church	209	8,539	R	12	6	No	Req	55	100
Norfolk General Hospital +[1]	Norfolk	NPAssn	340	9,065	R	12	10	(250)	Req	27	100
Medical College of Virginia Hospital Division +[1-3]-X77 (Memorial, Dooley and St Philip Hospitals)	Richmond	State	753	17,395	R M	12 24	34	(155)	Req	46	
Stuart Circle Hospital [1]	Richmond	Corp	114	4 345	R	12	4	No	Req	45	100
Jefferson Hospital +	Roanoke	Corp	150	5,636	R	12	3	(156)	Req	27	50
Lewis Gale Hospital +[1]	Roanoke	Corp	180	6 451	R	12	6	No	Req	36	75
Memorial and Crippled Childrens Hospital [1]	Roanoke	NPAssn	140	4 871	R	12	4	No	None	40	100
WASHINGTON											
Columbus Hospital [1]	Seattle	Church	185	4,252	R	12	5	(218)	None	69	50
Doctor's Hospital +	Seattle	NPAssn	200	8,557	R	12	6	No	None	40	50
King County Hospital Unit No 1 (Harborview) +[1] X81	Seattle	County	575	11,750	R	12	23	No	Req	51	60
Providence Hospital +[1]	Seattle	Church	357	12,263	R	12	11	(219)	Req	60	50
Swedish Hospital +[1]	Seattle	NPAssn	330	13,498	R	12 24	15	(181)	Req	63	50
Virginia Mason Hospital +[1]	Seattle	NPAssn	208	9,712	R	12	8	No	None	61	50
Deaconess Hospital +[1]	Spokane	Church	213	8,978	R	12	8	No	None	50	100
Sacred Heart Hospital +[1]	Spokane	Church	416	17,395	R	12	12	No	Req	29	100
St Luke's Hospital +[1]	Spokane	NPAssn	265	7 198	R	12	8	(182)	None	46	85
Pierce County Hospital [1-5]	Tacoma	CyCo	226	4 393	R	12	8	(256)	Req	52	100
St Joseph's Hospital +[1]	Tacoma	Church	279	8,273	R	12	6	No	None	46	100
Tacoma General Hospital [1]	Tacoma	NPAssn	213	8,550	R	12	8	No	None	38	75
Northern Permanente Hospital +[1]	Vancouver	NPAssn	124	1,864	R	12	8	No	Req	71	100
WEST VIRGINIA											
Bluefield Sanitarium	Bluefield	Corp	165	7,990	R	12	4	No	None	31	75
Charleston General Hospital +[1]	Charleston	NPAssn	250	8,064	R	12	10	No	Req	52	100
Kanawha Valley Hospital [1]	Charleston	Corp	150		M	12	2	No	Req		100
Chesapeake and Ohio Hospital +[1]	Huntington	NPAssn	165	4,881	R	12	4	No	Req	36	50
St Mary's Hospital +[1]	Huntington	Church	300	14,456	R	12	8	No	Req	37	75
St Joseph's Hospital +	Parkersburg	Church	170		R	12	3	No	None		100
Ohio Valley General Hospital [1]	Wheeling	NPAssn	333	9,033	R	12	10	No	Req	20	100
Wheeling Hospital [1]	Wheeling	Church	250		R	12	5	No	None		100
WISCONSIN											
St Elizabeth Hospital	Appleton	Church	201	7,228	R	12	8	No	None	33	50
Luther Hospital [1]-x78	Eau Claire	NPAssn	193	6 330	R	12	4	No	Req	39	50
St Agnes Hospital	Fond du Lac	Church	287	10 313	R	12	2	No	None	37	75
Mercy Hospital [1]-x78	Janesville	Church	200	4,821	R	12	4	No	None	48	40
La Crosse Lutheran Hospital +[1] x78	La Crosse	Church	140	4,834	R	12	4	No	Req	49	50
St Francis Hospital [1]-x78	La Crosse	Church	317	9 603	R	12	8	No	None	26	100
Madison General Hospital +[1]	Madison	NPAssn	177	6,877	R	12	6	No	Req	60	60
Methodist Hospital [1]	Madison	Church	132	4,555	R	12	4	No	None	49	90
St Mary's Hospital +[1]	Madison	Church	230	7,488	R	12	8	No	None	38	150
State of Wisconsin General Hospital +[1] X78	Madison	State	750	14,488	R	12	20	No	Req	69	
St Joseph's Hospital +-x78	Marshfield	Church	250	7 591	R	12	6	No	None	55	100
Columbia Hospital +-x79	Milwaukee	NPAssn	160	5 267	R	12	7	No	Req	64	45
Evangelical Deaconess Hospital +	Milwaukee	Church	138	6 949	R	12	8	No	Req	52	100
Milwaukee County Hospital +[1]-X79	Milwaukee	County	950	19,117	R	12	40	(183)	Req	71	60 29
Milwaukee Hospital +[1] x79	Milwaukee	Church	263	9 641	R	12	9	No	None	59	70
Misericordia Hospital	Milwaukee	Church	110	4,567	R	12 24	8	No	None	28	100
Mount Sinai Hospital +[1] x79	Milwaukee	NPAssn	175	9 269	R	12	6	No	Req	39	40
St Joseph Hospital +[1] x79	Milwaukee	Church	372	13,086	R	12	12	No	None	35	60
St Luke's Hospital +[1]	Milwaukee	Church	135	7,110	R	12	8	No	None	24	130
St Mary's Hospital +[1]	Milwaukee	Church	210	7 667	R	12	6	No	None	53	75
St Michael's Hospital [2]	Milwaukee	Church	138	4,603	M	12	4	(259)	Req	43	100
Mercy Hospital [1]	Oshkosh	Church	207	7,463	R	12	4	No	None	23	100
St Mary's Hospital [1]	Racine	Church	179	5,731	M	12	4	No	None	31	50
CANAL ZONE											
Gorgas Hospital +	Ancon	Fed	705	11,187	R	12	24	No	Req	56	167
HAWAII											
Kuakini Hospital +[1]	Honolulu	NPAssn	120	5 240	R	12	8	(129)	Req	41	75
Queen's Hospital +[1]	Honolulu	NPAssn	384	11,255	R	12	12	(157)	Req	62	50
St Francis Hospital +[1]	Honolulu	Church	213	7 894	R	12	8	No	Req	48	75
PUERTO RICO											
Charity District Hospital [1]	Arecibo	State	300	5 084	R	12	6	No	None	9	75
Bayamon District Hospital [1]	Bayamon	Fed	300	7,453	R	12	5	No	None	34	75
Fajardo District Hospital [1]	Fajardo	State	300	4,392	R	12	6	No	Req	28	75
Clinica Quirurgica Dr Pila	Ponce	NPAssn	186	3,843	R	12	6	No	Req	35	100
Presbyterian Hospital [1]	San Juan	Church	114	2,961	R	12	6	(238)	Req	25	25
San Juan City Hospital	San Juan	City									

Abbreviations and other references will be found on pages 1159 and 1160

HOSPITALS APPROVED FOR INTERNSHIPS IN THE DOMINION OF CANADA

For the benefit of graduates of approved medical colleges who desire an internship in Canada the Council on Medical Education and Hospitals of the American Medical Association has declared that hospitals which conform to the standards of the Canadian Medical Association should be regarded as giving an internship equivalent in educational value to that offered by hospitals in the United States approved for intern training by the Council It is understood however that this statement applies only to hospitals that are unqualifiedly Approved under the Canadian plan and does not apply to that group referred to as Commended

The following list of hospitals revised to Jan 1 1950 has been furnished by the Canadian Medical Association

Name of Hospital	Location	Name of Hospital	Location	Name of Hospital	Location
Camp Hill Hospital	Halifax N S	Brantford General Hospital	Brantford Ont	Hotel Dieu of St Joseph	Windsor Ont.
Halifax Infirmary	Halifax N S	Hamilton General Hospital	Hamilton Ont	Children s Hospital	Winnipeg Man
Victoria General Hospital	Halifax N S	St Joseph s Hospital	Hamilton Ont	Deer Lodge Hospital	Winnipeg Man
St John General Hospital	St John N B	St Joseph s Hospital	London Ont	Misericordia Hospital	Winnipeg Man
Hospital du St Sacrament	Quebec Que	Victoria Hospital	London Ont	Winnipeg General Hospital	Winnipeg Man
Hospital Dieu de Quebec	Quebec Que	Westminster Hospital	London Ont	St. Boniface Hospital	St Boniface Man
Hospital of the Infant Jesus	Quebec Que	Oshawa General Hospital	Oshawa Ont	Regina General Hospital	Regina Sask
Jeffrey Hale s Hospital	Quebec Que	Ottawa Civic Hospital	Ottawa Ont.	Regina Grey Nun s Hospital	Regina Sask
Veterans Hospital	Quebec Que	Ottawa General Hospital	Ottawa Ont	St Paul s Hospital	Saskatoon Sask
Children s Memorial Hospital	Montreal Que	Hotel Dieu Hospital	Kingston Ont	Saskatoon City Hospital	Saskatoon Sask
Herbert Reddy Mem Hospital	Montreal Que	Kingston General Hospital	Kingston Ont	Calgary General Hospital	Calgary Alta
Homeopathic Hospital	Montreal Que	St Catharines Gen Hosp	St Catharines Ont	Colonel Belcher Hospital	Calgary Alta
Hospital Notre Dame	Montreal Que	Christie Street Hospital	Toronto Ont	Holy Cross Hospital	Calgary Alta
Hospital Ste Jeanne d Arc	Montreal Que	Hospital for Sick Children	Toronto, Ont	Edmonton General Hospital	Edmonton Alta
Hospital Ste Justine	Montreal Que	Mount Sinai Hospital	Toronto Ont	Misericordia Hospital	Edmonton Alta
Hotel Dieu de Montreal	Montreal Que	St Joseph s Hospital	Toronto Ont	Royal Alexandra Hospital	Edmonton Alta
Hospital Ste Luc	Montreal Que	St Michael s Hospital	Toronto Ont	University of Alberta Hosp	Edmonton Alta
Jewish General Hospital	Montreal Que	Toronto East General Hospital	Toronto Ont	St Paul s Hospital	Vancouver B C
Montreal General Hospital	Montreal Que	Toronto General Hospital	Toronto Ont	Shaughnessy Hospital	Vancouver B C
Queen Mary Veterans Hospital	Montreal Que	Toronto Western Hospital	Toronto, Ont.	Vancouver General Hospital	Vancouver B C
Royal Victoria Hospital	Montreal Que	Wellesley Hospital	Toronto Ont	Royal Jubilee Hospital	Victoria, B C
St Mary s Hospital	Montreal Que	Women s College Hospital	Toronto Ont	St Joseph s Hospital	Victoria B C
Ste Anne s Hospital	Ste Anne de Bellevue Que	Grace Hospital	Windsor Ont	Veterans Hospital	Victoria B C
		Metropolitan Hospital	Windsor Ont.		

ABBREVIATIONS AND NOTES

1	Women interns admitted
2	Women interns only
3.	Dental interns employed
4	Male patient only

CyCo	City and County
Corp	Corporation unrestricted as to profit
NPAssn	Nonprofit association
Part	Partnership

Op	Optional
Req	Required
R	Rotation
M	Mixed
S	Straight

+ The plus sign indicates additional approval for residencies in specialties as shown in the Council s list of Approved Residencies and Fellowships for Veteran and Civilian Physicians

Medical School Affiliations

Footnotes 10 to 81 refer to medical schools affiliated with hospitals for undergraduate clinical clerkships

Hospitals have been identified with symbol X when a medical school has indicated that the hospital is a major unit in the school s teaching program Hospitals have been identified with symbol x when a medical school has indicated that the hospital is used to a limited extent in the school s teaching program

10 Medical College of Alabama Birmingham Ala
11 University of Arkansas School of Medicine Little Rock Ark
12 University of California Medical School Berkeley San Francisco Calif
13 College of Medical Evangelists Loma Linda Los Angeles Calif
14 University of Southern California School of Medicine Los Angeles Calif
15 Stanford University School of Medicine Stanford University—San Francisco Calif
16 University of Colorado School of Medicine Denver Colo
17 Yale University School of Medicine New Haven Conn.
18 Georgetown University School of Medicine Washington D C
19 George Washington University School of Medicine Washington D C
20 Howard University College of Medicine Washington D C
21 Emory University School of Medicine Atlanta Ga
22 University of Georgia School of Medicine Augusta Ga
23 Chicago Medical School Chicago Ill
Loyola University School of Medicine Chicago Ill —See footnote 80
24 Northwestern University Medical School Chicago Ill
25 University of Chicago School of Medicine Chicago Ill.
26 University of Illinois College of Medicine Chicago Ill.
27 Indiana University School of Medicine Bloomington Indianapolis Ind
28 State University of Iowa College of Medicine Iowa City Iowa
29 University of Kansas School of Medicine Lawrence Kansas City Kan
30 University of Louisville School of Medicine Louisville Ky
31 Louisiana State University School of Medicine New Orleans La
32 Tulane University of Louisiana School of Medicine New Orleans La
33 Johns Hopkins University School of Medicine Baltimore Md
34 University of Maryland School of Medicine and College of Phys and Surg Baltimore Md
35 Boston University School of Medicine Boston Mass
36 Harvard Medical School Boston Mass
37 Tufts College Medical School Boston Mass
38 University of Michigan Medical School Ann Arbor Mich
39 Wayne University College of Medicine Detroit Mich
40 University of Minnesota Medical School Minneapolis Minn.
41 St Louis University School of Medicine St Louis Mo
42. Washington University School of Medicine St. Louis Mo
43 Creighton University School of Medicine Omaha Neb
44 University of Nebraska College of Medicine Omaha Neb
45 Albany Medical College Albany N Y
46 Long Island College of Medicine Brooklyn N Y
47 University of Buffalo School of Medicine Buffalo N Y
48 Columbia University College of Physicians and Surgeons New York N Y
49 Cornell University Medical College New York N Y
50 New York Medical College Flower and Fifth Avenue Hospitals New York N Y
51 New York University College of Medicine New York N Y
52 University of Rochester School of Medicine and Dentistry Rochester N Y
53 Syracuse University College of Medicine Syracuse N Y
54 Duke University School of Medicine Durham N C
55 Bowman Gray School of Medicine of Wake Forest College Winston Salem N C
56 University of Cincinnati College of Medicine Cincinnati Ohio
57 Western Reserve University School of Medicine Cleveland Ohio
58 Ohio State University College of Medicine Columbus Ohio
59 University of Oklahoma School of Medicine Oklahoma City Okla
60 University of Oregon Medical School Portland Ore
61 Hahnemann Medical College and Hospital of Philadelphia Philadelphia Pa
62 Jefferson Medical College of Philadelphia Philadelphia Pa
63 Temple University School of Medicine Philadelphia Pa.
64 University of Pennsylvania School of Medicine Philadelphia Pa
65 Woman s Medical College of Pennsylvania Philadelphia Pa
66 University of Pittsburgh School of Medicine Pittsburgh Pa
67 Medical College of the State of South Carolina Charleston S C
68 University of Tennessee College of Medicine Memphis Tenn
69 Meharry Medical College Nashville Tenn
70 Vanderbilt University School of Medicine Nashville Tenn
71 Southwestern Medical College of the Southwestern Medical Foundation Dallas Tex.
72 University of Texas School of Medicine Galveston Tex.
73 Baylor University College of Medicine Houston Tex
74 University of Utah School of Medicine Salt Lake City Utah
75 University of Vermont College of Medicine Burlington Vt.
76 University of Virginia Department of Medicine Charlottesville Va
77 Medical College of Virginia Richmond Va
78 University of Wisconsin Medical School Madison Wis
79 Marquette University School of Medicine Milwaukee
80 Stritch School of Medicine of Loyola University
81 University of Washington School of Medicine

Affiliations as Referred to in Column Headed "Affiliated Service"

100 Los Angeles County Hospital Los Angeles obstetrics
101 Los Angeles County Hospital Los Angeles contagion
102 Children s Hospital Los Angeles pediatrics
103 Maricopa County Hospital Phoenix medicine orthopedics pediatrics surgery
104 Pima County Hospital Tucson
105 St Francis St Luke s Hospital San Francisco obstetrics pediatrics
106 Middlesex Rocky Hill Veterans Home Waterbury Undercliff outpatient medicine
107 Grady Memorial Hospital Atlanta Ga medicine pediatrics obstetrics-gynecology
108 Grady Memorial Hospital Atlanta Ga medicine
109 Outlook Sanitarium Urbana Illinois tuberculosis
110 Cuneo Hospital Chicago obstetrics
111 Winfield Sanatorium Winfield tuberculosis
112 Children s Memorial Hospital Chicago pediatrics Lake County Sanitarium tuberculosis
113 Winnebago County Hospital contagious diseases
114 Sedgwick County Hospital Booth Memorial Hospital
115 Children s Hospital Louisville pediatrics
116 Johns Hopkins Hospital Baltimore male urology
117 University of Maryland Clinics
118 Chapin Hospital Providence R I communicable diseases
119 Children s Hospital Boston pediatrics.
120 St Joseph s Retreat Detroit Herman Kiefer Hospital Detroit contagion psychiatry
121 St Joseph Mercy Hospital Ann Arbor pediatrics
122 Miller Memorial Hospital outpatient
123 Koch and City #1 isolation communicable and contagious diseases
124 Cheming County T B Sanitarium tuberculosis
125 S C Crippled Children s Home Florence Darlington T B Sanitorium and S C V D Hosp
126 Essex-County Overbrook Hospital Essex County Sanatorium Babies Hospital and Essex County Hospital for Contagious Diseases psychiatry tuberculosis pediatrics and contagious diseases
127 West Tennessee T B Hospital thoracic
128 U S Naval Hospital Portsmouth Va obstetrics Kings Daughters Pediatric Clinic
129 Kalaupapa Leper Settlement Hansen s Disease
130 Municipal Tuberculosis Sanitarium chest Children s Memorial pediatrics
131 Santa Monica Hospital Santa Monica emergency service and additional outpatient
132 California Hospital Los Angeles pediatrics
133 Southbury Training School pediatrics
134 Lewis Memorial contagious and obstetrics gynecology Municipal tuberculosis
135 Indiana University Medical Center pediatrics
136 Broadlawns Des Moines Iowa outpatient
137 University of Maryland Hospital obstetrics
138 Boston Lying In & Deaconess pathology
139 Wesson Maternity Hospital Mass obstetrics
140 Herman Kiefer Hospital and University of Mich Hospital contagious diseases and pre and post natal clinics
141 Herman Kiefer and Woman s Hospital Detroit obstetrics and contagion
142 Evangeline Home Mich obstetrics
143 St Barnabas Hospital Minneapolis pediatrics
144 Gillette State Hospital Minn orthopedics
145 Children s Hospital St Paul Minn pediatrics
146 Douglas County Omaha Neb traumatic surgery
147 Margaret Hague obstetrics Pollak Chest Hospital tuberculosis
148 Mt Sinai Hospital Cleveland gynecology and obstetrics
149 Children s Hospital Columbus Ohio pediatrics
150 St Vincent s Hospital Portland Ore obstetrics
151 Hosp of the University of Pa Hospital obstetrics
152 St Christopher s Hospital for Children Philadelphia Penna pediatrics
153 Vanderbilt University Hospital Nashville Tenn outpatient
154 University of Utah Salt Lake General Hospital
155 Stuart Circle Hospital St. Luke s Hospital St Elizabeth s Hospital Pine Camp Hospital Raiford Memorial Hospital Franklin Va Mary Washington Hospital Fredricksburg Va Southside Community Hospital Farmville Va Northampton-Accomack Memorial Hospital Nassawadox Va All general with the exception of Pine Camp Hospital which is a Tuberculosis Hospital
156 Roanoke City Tuberculosis tuberculosis
157 Leahi-medicine Tripler surgery Kalaupapa medicine surgery leprosy
158 San Francisco City County Hospital obstetrics gynecology
159 N Y University basic sciences
160 Indianapolis Gen Hospital emergency
161 Broadlawns Gen Hospital Des Moines Iowa outpatient and emergency
162 Herman Kiefer and Receiving Hospitals, tuberculosis contagious diseases and emergency service
163 Children s Hospital of Michigan Herman Kiefer Hospital Pediatrics contagion obstetrics
164 General Hospital #1—Leeds TB Sanatorium Kansas City Mo tuberculosis
165 Margaret Hague and Pollak Hospital, obstetrics, tuberculosis
166 Brooklyn Thoracic Brooklyn tuberculosis
167 N Y University basic sciences
168 Beth Israel Hospital N Y obstetrics
169 N C Orthopedic Gastonia Warm Springs Foundation Shriner s Greenville S C Charlotte Memorial Charity New Orleans Columbia Columbia S C Nor Car Sanatorium McCain N C Moore County Pinehurst N C orthopedics pediatrics surgery
170 Bowman Gray Medical School Winston-Salem N C pathological conference
171 Children s Hospital Akron Ohio pediatrics
172 Children s Hospital, pediatrics
173 Cincinnati Gen Hospital contagious and pediatrics
174 Children s Hospital Columbus pediatrics
175 Children's Hospital and St Francis Hospital pediatrics medicine surgery
176 Shriners Hospital and City Isolation Hospital children s orthopedics and contagion
177 Providence Hospital Portland pediatrics
178 West Side Hospital, Scranton obstetrics
179 Chapin Hospital, Providence R I, contagion and mental
180 Medical College of Virginia medicine surgery obstetrics gynecology
181 Children s Orthopedic Hospital Seattle pediatrics orthopedics for children
182 Booth Mem Hospital Spokane Wash obstetrics
183 City Isolation and St Joseph s contagion and obstetrics
184 Children s Hospital Los Angeles pediatrics Compton Sanat Compton Calif psychiatry
185 Los Angeles County Hospital Communicable Diseases
186 Emergency and County Los Angeles contagious diseases
187 Fairmont Hospital Oakland chronic clinic tuberculosis
188 Boulder Colo Sanitarium Boulder, Colo outpatient, e n t pediatrics and x ray
189 Colorado Gen Hospital applied basic medical science course
190 Children s Hospital Denver pediatrics
191 N E Medical Center and Post Graduate Tufts College—surgical research exper surg anatomy
192 Gallinger Hospital Washington D C obstetrics
193 Children s and Casualty pediatrics and casualty work
194 Chicago Memorial Hospital obstetrics gynecology, pediatrics
195 Children s Memorial Hospital pediatrics
196 Evansville State and Boehne T B Hospital mental and tuberculosis
197 Sedgewick County Hospital Wichita Kansas rotating
198 St Joseph Infirmary and General Hospital pediatrics and diagnostic clinic.
199 Robt B Brigham Haynes Memorial New England Deaconess Pondville Hospital Rutland V A Hospital chronic cancer communicable
200 University of Michigan basic sciences
201 Receiving and Children s Detroit orthopedics pediatrics
202 Industrial School for Boys Inghan County T B Sanatorium minor surgery tuberculosis
203 Oakland County T B Sanatorium tuberculosis Pontiac State Hospital mental
204 Miller Mem Hospital Duluth outpatient
205 University Hospital Minneapolis all services
206 Minneapolis Gen Hospital, obstetrics-gynecology pediatrics
207 Minneapolis Gen Hospital receiving ward
208 Gillette Hospital Minn orthopedics
209 Alexian Brothers St Louis Missouri psychiatry
210 St Elizabeth Hospital Elizabeth N J obstetrics
211 Geneva General Hospital Geneva N Y Park Ave Hospital Rochester N Y mixed
212 Misericordia Hospital New York City obstetrics-gynecology and pediatrics
213 Children s Hospital of Akron pediatrics
214 St Ann s Hospital obstetrics
215 Magee Woman s Children s Eye Ear Nose and Throat Pittsburgh Penna obstetrics gynecology pediatrics e e n t.
216 Vanderbilt, General Hospital City Health Dept pediatrics obstet
217 St Mary s Infirmary Galveston obstetrics
218 King County Seattle outpatient
219 Firland Sanit Seattle chest diseases
220 Duval Medical Center Hope Haven Brewster and City Clinics outpatient clinics medicine surgery gynecology pediatrics and orthopedics
221 Grady Memorial Hospital emergency
222 University Hospital Chicago
223 Grace Hospital Detroit obstetrics pediatrics
224 City and Children s Hospitals medicine pediatrics surgery
225 Creighton School of Medicine & County emergency service
226 Betty Bachrach Home for Crippled Children Pine Rest Sanat Children s Seashore Home
227 Anthony N Brady Maternity Hospital obstetrics
228 Kingston Avenue Hospital pediatrics
229 Harlem Hospital obstetrics
230 Syracuse City Hospital contagious Syracuse Psychopathic psychiatry
231 Watts Hospital Durham N C basic sciences
232 Cincinnati General Hospital pediatrics
233 City Hospital Lakeside Hospital Cleveland tuberculosis contagious diseases
234 Children s Hospital of Philadelphia pediatrics
235 Pine Breeze Sanit tuberculosis, Children s Hospital pediatrics
236 Gulf Colo and Santa Fe R R Assoc Hospital orthopedics pediatrics
237 Blue Ridge Sanat Martha Jefferson Hospital Kings Daughters Hospital and Baptist Hospital rotating
238 University Hospital of the School of Tropical Medicine San Juan Puerto Rico tropical medicine pathology and parasitology
239 Hahnemann obstetrics
240 Rosella Maternity Hospital Pittsburgh obstetrics
241 St Elizabeth s Brighton Mass obstetrics
242 Saginaw County Infirmary Saginaw County Contagious Hospital and T B Sanat chronic diseases
243 Children s Hospital San Francisco pediatrics
244 Children s Hospital pediatrics
245 Boston City Hospital surgery
246 J J McCook Memorial Hospital isolation service
247 Herman Kiefer Hospital obstetrics and contagion
248 Nashville General and St Thomas Hospital medicine and pediatrics
249 City Hospital isolation
250 Kings Daughters Florence Crittenden pediatrics obstetrics
251 Miss Tuberculosis Sanat diseases of chest
252 Philadelphia Hospital cont dis and cont medicine
253 Pima County Hospital traumatic and surgery
254 Santa Barbara General Hospital
255 Oklahoma University Hospital
256 Mount View Sanatorium tuberculosis, Prenatal Clinic obstetrics gynecology
257 Margaret Hague Maternity Hospital obstetrics
258 Children s Orthopedic Hospital
259 St Joseph s obstetrics
260 Gallinger Municipal Hospital obstetrics pediatrics
261 Mercy Hospital pediatrics
262 Santa Barbara Cottage Hospital
263 Municipal Hospital for Contagious Diseases contagion
264 Ingham County T B Sanatorium tuberculosis
265 Johns Hopkins Hospital pediatrics
266 Emergency Hospital traumatic surgery
267 Chronic Disease Hospital chronic diseases, Dunham Hospital tuberculosis.
268 Arlington and Prince George Hospital medicine and surgery

APPROVED RESIDENCIES AND FELLOWSHIPS

Council on Medical Education and Hospitals of the American Medical Association
535 North Dearborn Street Chicago 10

Revised to April 1, 1950

Hospitals, 1,079, Assistant Residencies, Residencies and Fellowships, 18,669

The following services are approved by the Council on Medical Education and Hospitals as meeting the requirements of the Essentials of Approved Residencies and Fellowships In those specialties in which certifying boards have been established approval is extended in concurrence with the Board concerned The number of years of training for which approval has been granted is indicated in the column 'Length of Approved Program (years)" Residencies in which this designation does not appear have been approved without specifying the number of years for which they are accredited

The (*) indicates hospitals approved for intern training The (†) represents temporary approval, pending formal inspection in accordance with the plan announced in THE JOURNAL, March 2 1946 p 586 Granting of approval on this basis has been terminated by action of the Council and the Advisory Board for Medical Specialties Hospitals temporarily approved prior to this action currently are being inspected to determine whether or not approval should be continued and, if so the number of years of training for which they will be accredited

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1 ALLERGY

The following services are approved by the Council and the American Board of Internal Medicine
Hospitals 9 Assistant Residencies and Residencies, 12

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered *	Beginning of Service (1950)	Beginning Stipend (Month)
Veterans Administration							
Veterans Admin Hospital	Aspinwall Pa	L H Criep	202		2	7/1	n
Nonfederal							
Northwestern University Medical Center	Chicago	S Feinberg	40	500	2	1/1, 7/1	200
†Johns Hopkins Hospital*¹	Baltimore						
†Massachusetts General Hospital*	Boston						
Jewish Hospital*¹	Brooklyn	M Walzer and M Brunner	47	11 167	2	7/1	30
Roosevelt Hospital*¹	New York City	R A. Cooke	183	35 474	2	7/1	200
Montefiore Hospital*¹	Pittsburgh	L H Criep		11,531	1	7/1	60
†University of Virginia Hospital*	Charlottesville Va	O Swineford Jr		1,135	2	7/1	
†Milwaukee County Hospital*¹	Milwaukee		141	1 608	1	7/1	175.58

2 ANESTHESIOLOGY

The following services are approved by the Council and the American Board of Anesthesiology Residencies in this specialty have been approved without specifying the number of years for which they are accredited The Board will give appropriate credit for training in these hospitals on an individual basis
Hospitals 213 Assistant Residencies and Residencies, 731

Name of Hospital	Location	Chief of Service	Total Anesthetics	Inhalation Anesthetics	Asst Res and Residencies Offered *	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army							
Letterman General Hospital*	San Francisco	E P Shannon	5 451	2,743	2	1/1, 7/1	n
Fitzsimmons General Hospital*	Denver	H Makel	4 021	2,550	3	1/1 7/1	n
Army Medical Center*¹	Washington D C	J Gardiner	6 363	2 891	2	7/1	n
Brooke Army Medical Center*¹⁴	San Antonio Texas	F C Dye	12 088	3,583	6	7/1	n
United States Navy							
U S Naval Hospital*	Long Beach Calif	D M Pino	9 054	4,101			n
U S Naval Hospital	Oakland, Calif.	F Thornburg	5 769	634	2		n
U S Naval Hospital*¹	Bethesda, Md.	H A. Gross	4,061	1,258	4	Varies	n
U S Naval Hospital	Chelsea, Mass.		2,985	356	2		n
U S Naval Hospital*¹	St Albans N Y	J G Kurfees	2,522	894	4	Varies	n
U S Naval Hospital*	Philadelphia	S Whitehouse	3,523	988	1	1/1 7/1	n
United States Public Health Service							
U S Marine Hospital*¹	Stapleton N Y	C L Herbert	7 856	1 767	2	7/1	n
Veterans Administration							
Veterans Admin Center*¹	Los Angeles	N H Rupp	5,598	1 017	9	1/1 7/1	n
Veterans Admin Hospital ¹	San Francisco	W B Neff	1 451	520	4	7/1	n
†Veterans Admin Hospital*¹	Van Nuys Calif	H. Rosenberg	3 675	121	1	1/1, 7/1	n

Numerical and other references will be found on page 1215

2 ANESTHESIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Total Anesthetics	Inhalation Anesthetics	Asst Res. and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Veterans Admin Hospital[1]	Ft Logan, Colo	F Brown	19,064	423	2	1/1	n
Veterans Admin Hospital[1]	Washington, D C	L M Jones	2,166	831	2	7/1	n
†Veterans Admin Hospital[1]	Chamblee, Ga	W H Galvin	2,867	865	8	7/1	n
Veterans Admin Hospital	Hines, Ill	W A Conroy	6,497	1,518	12	1/1, 7/1	n
†Veterans Admin Hospital[1]	Indianapolis	H L Egbert	1,856	323	2	1/1, 7/1	n
Veterans Admin Center	Des Moines, Iowa	J L Bailey	4,212	666	7	7/1	n
Veterans Admin Center[1]	Wadsworth Kan	R S McKee	4,241	344	8	1/1, 7/1	n
†Veterans Admin Hospital[1]	Louisville, Ky	H Winsor	4,701	979	2		n
Veterans Admin Hospital[1]	New Orleans, La	M A Vanney	2,163	271	2	7/1	n
Veterans Admin Hospital	Boston	R Hill	3,151	438	3	1/1 7/1	n
Veterans Admin Hospital[1]	Framingham, Mass		4 445	193	3	8/1	n
Veterans Admin Hospital[1]	Minneapolis	A E Berndt	4,152	1,519	10	7/1	n
Veterans Admin Hospital[1]	Jefferson Bks, Mo	R M Barrett	3,797	823	4	7/1	n
Veterans Admin Hospital[1]	Buffalo		1,765	184			n
Veterans Admin Hospital[1]	New York City	B J Cillberti	6,601	1,205	9	1/1, 7/1	n
Veterans Admin Hospital[1]	Staten Island, N Y	B J Cillberti	8,588	654	8	7/1	n
Veterans Admin Hospital	Dayton, Ohio		3,880	632	1	Varies	n
Veterans Admin Hospital[1]	Oklahoma City	E W Cubler	1,416	69	1	1/1	n
Veterans Admin Hospital	Portland, Ore	J H Hutton	2,699	603	2	1/1, 7/1	n
Veterans Admin Hospital	Dearborn, Mich		4,440	413	3	7/1	n
Veterans Admin Hospital	Aspinwall, Pa	L G David	3 538	210	2	7/1	n
†Veterans Admin Hospital[1]	Memphis Tenn	R Popper	5,010	738	3	7/1	n
Veterans Admin Hospital[1]	Dallas, Texas	I E Lamberth	1,724	827	3	1/1	n
Veterans Admin Hospital[1]	McKinney, Texas	F A Alexander	1,553	513	2	7/1	n
Veterans Admin Center[1]	White River Jct, Vt	R E Lapointe	2 006	85	2	7/1	n
Veterans Admin Hospital[1]	Richmond Va	I B Gold	3 592	299	6	7/1	n
Veterans Admin Center[1]	Milwaukee, Wis	R Foregger and R Tella	2,773	487	5	7/1	n
Nonfederal							
Jefferson Hillman Hospital★[1]	Birmingham, Ala	A McNeal	9,714	8,470	3	7/1	50
Employees' Hospital of Tennessee Coal, Iron and Railroad Company★	Fairfield, Ala	E B Robinson, Jr	3,708	2,394	1	7/1	225
Los Angeles County Hospital★[1]	Los Angeles	J B Dillon	11,518	2,437	12	Varies	165
White Memorial Hospital★[1]	Los Angeles	F E Leffingwell	3,629	734	6	7/1	120
Samuel Merritt Hospital	Oakland, Calif	B Anderson	5,094	3,237	2	7/1	100
Children's Hospital★[1]	San Francisco	H D Lapp	3,616	1,600	2	7/1	50
Franklin Hospital★[1]	San Francisco	J L Cardwell	5,821	2,995	1	7/1	100
French Hospital★[1]	San Francisco	M L Skaggs	3,268	1,123	1	7/1	150
St Joseph's Hospital★	San Francisco	C Wykoff	4,353	1,308	1	7/1	200
Stanford University Hospital★[1]	San Francisco	W B Neff	6 372	3,235	2	7/1	50
University of California Hospital★[1]	San Francisco	F J Murphy	5,700		6	7/1	75
University of Colorado Medical Center,							
Colorado General Hospital★[1]	Denver, Colo	P A Lief	8,526	2 063	6	7/1	75
Denver General Hospital★[1]	Denver, Colo	P A Lief	3 578	1,541	4	7/1	75
Bridgeport Hospital★	Bridgeport, Conn	D M Massey	5,780	2 513	1	7/1	100
Hartford Hospital★[1, 16]	Hartford, Conn	R M Tovell	12,191	27,906	20		50
St Francis Hospital★[1]	Hartford, Conn	S J Martin	12,488	8,818	10	1/1, 7/1	75
Grace New Haven Community Hospital, New Haven Unit (University Service)★[1]	New Haven, Conn	I J Hampton	6,013	3,281	8	7/1	40
Hospital of St Raphael★[1]	New Haven, Conn	M L Garofolo	9,513	3 824	4	7/1	75
St Mary's Hospital★[1]	Waterbury, Conn	W Grillo	5,117	3,274	2	7/1	150
Memorial Hospital★[1]	Wilmington, Del	R E Allen	3,308	2,245	1	7/1	100
Doctors Hospital★	Washington, D C	C W Hyde	7,520	6,175	3	1/1 7/1	100
Gallinger Municipal Hospital★[1]	Washington, D C	F B Tuohy	10,738	6 310	3	7/1	100
†Garfield Memorial Hospital★[1]	Washington, D C	F B Macon	7,200	6 171			
Georgetown University Hospital★	Washington D C	F Tuohy	6 953	4,550	10	4/1 7/1	25
George Washington University Hospital★[1]	Washington, D C	C Coakley	7,825	4,180	8	7/1	50
Riverside Hospital[1]	Jacksonville, Fla	J T Stage	1,042	667	1	9/1	150
University Hospital★[1]	Augusta, Ga	P P Volpitto	8,627	4,026	7	7/1	40
American Hospital★[1]	Chicago	Z Harris	3,500	1,750	6	1/1 7/1	50
Cook County Hospital★[1]	Chicago	F Grem	13 104	8,508	2	1/1, 7/1	32
Grant Hospital	Chicago	L Gittelson	4,700	2,640	1	1/1	100
Michael Reese Hospital★[1]	Chicago	B Stodsky	9,056	4,145	7	Varies	50
Mount Sinai Hospital★[1]	Chicago	R Weyl	4,151	3,106	2		50
Northwestern University Medical Center							
Passavant Memorial Hospital★[1]	Chicago	L Watt	3 060	3,284			
Wesley Memorial Hospital★	Chicago	M Karp	8,700	6 753	3	1/1	25
Presbyterian Hospital★	Chicago	C D Anderson	9,822	7,184	3		50
Research and Educational Hospital★[1]	Chicago	M Sadove	3 500	2 000	6	7/1	55
St Luke's Hospital★[1]	Chicago	W A Conroy	6 248		6	1/1, 7/1	25
University of Chicago Clinics★[1]	Chicago	H Livingstone	10,208	6,587	9	Varies	50
Evanston Hospital★[1]	Evanston, Ill	J E Remlinger	5,870	2,900	4	1/1, 7/1	50
Indianapolis General Hospital★	Indianapolis	L Mueller	12 828	2,571	2	7/1	100
Indiana University Medical Center★[1]	Indianapolis	V K Stoelting	6 387	2,922	7	7/1	63.33
Methodist Hospital★[1]	Indianapolis	J M Whitehead	19 297	11,601	2		200
Ball Memorial Hospital★[1]	Muncie, Ind	W B Adams	7,645	5,248	1	7/1	100
†Memorial Hospital★[1]	South Bend, Ind	R Rosenheimer	4,774	4 090	1	7/1	150
University Hospitals★[1]	Iowa City	S Cullen	9 502	5 473	9		
University of Kansas Medical Center★	Kansas City Kan	P H Lorhan	5,426	3,870	6	7/1	100
†St Joseph Hospital★	Lexington, Ky	W G Sergent	9,330	4 665	3	7/1	100
Louisville General Hospital★[1]	Louisville, Ky	R P Bergner	5,436	3,817	3	7/1	45
Charity Hospital of Louisiana★[1]	New Orleans	J Adriani	20 144	12,337	9	7/1	25
Ochsner Foundation Hospital[1]	New Orleans	G B Grant	4,522	1 659	4	Varies	125
Touro Infirmary★[1]	New Orleans	W Baker	7 093		4	7/1	17[illegible]0
Eastern Maine General Hospital★[1]	Bangor, Maine	C S Dwyer	5 003	3,712	1	7/1	50
Central Maine General Hospital★[1]	Lewiston, Maine	G Clapperton	3,788	1,979	1	7/1	100
Maine General Hospital★	Portland, Maine	J R Lincoln	5 898	2,119	4	7/1	50
†University Hospital★[1]	Baltimore	A T Nelson	8,010	1,722	5	7/1	100
Beverly Hospital★	Beverly, Mass	J H Fine	8,935	565	1		75
†Boston City Hospital★[1]	Boston	S C Wiggin	18,636	6,361	12	Varies	140
Faulkner Hospital★	Boston	E C Allen	2,270	469			
Lahey Clinic	Boston	U H Eversole			11	Varies	125
Massachusetts General Hospital★	Boston	H K Beecher					
Massachusetts Memorial Hospital★[1]	Boston	J G Arrowood	3,549	1,435	8	7/1, 9/1	60
New England Hospital for Women and Children★[1]	Boston	E Bartlett	3 177	1,886			50
St Elizabeth's Hospital★	Boston	L Zentgraf	6,200	4,700	2	7/1	7[illegible]
Cambridge City Hospital★	Cambridge Mass	D R Branch	4,651	1,960	1	7/1	7[illegible]

Numerical and other references will be found on page 1215

2 ANESTHESIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Total Anesthetics	Inhalation Anesthetics	Asst Res and Residencies Offered*	Beginning of Service (1950)	Beginning Stipend (Month)
†Mount Auburn Hospital*[1]	Cambridge Mass	J H Buskirk	5 183	2,554	2	9/1	
Newton Wellesley Hospital*[1]	Newton Mass	R S Hunt	4 955	2,964	1	7/1	100
Salem Hospital*[1]	Salem Mass	R R Richardson	4 068	2,653	1	Varies	50
Memorial Hospital*	Worcester Mass	C B Hinds Jr	4 405	2 887	1	7/1	100
St Vincent's Hospital*	Worcester Mass	W J Martin	5 274	2 972			
City of Detroit Receiving Hospital*[1]	Detroit	I B Taylor	6 112	1,916	7	7/1	189 06
Providence Hospital*	Detroit	N M Bittrich	4 120	3 005	1		140
Butterworth Hospital*[1]	Grand Rapids Mich	M L. Byrd	5 915	2,310	1	7/1	100
University of Minnesota Hospitals*[1]	Minneapolis	R Knight	4 441	3 070	13	7/1	125
Mayo Foundation	Rochester Minn	J S Lundy			15		92.50
Ancker Hospital*[1]	St Paul	R Knight	6,268	1 083	5		
Research Hospital*[1]	Kansas City Mo	M C Peterson	4,333	1 065	1	7/1	175
St Mary's Group of Hospitals*[1]	St Louis	J McNearney	9 004	2,940	3	7/1	35
Mary Hitchcock Memorial Hospital*[1]	Hanover N H	R H Barrett	4 855	1,943	3	7/1	150
†Elliot Hospital	Manchester N H	H Elliot	2 466	694	1	7/1	200
West Jersey Hospital*	Camden N J	F K. Hultzman	5 090	3 000	3	7/1	125
Jersey City Hospital*	Jersey City, N J	W Gleeson	5,525	2,113	6	Varies	35
St Joseph Hospital*	Paterson N J	H G Walker	3 212	2,358	1	7/1	150
Albany Hospital*[1]	Albany N Y	M H Harmel	7 100		8	7/1	41 66
Beth El Hospital*[1]	Brooklyn	A C Goldfeder	5 815	1 440	1	7/1	100
Jewish Hospital*[1]	Brooklyn	I M Pallin	7 729	4 043	6	7/1	100
Maimonides Hospital*[1]	Brooklyn	J Holzmann	8 661	4 190	3	7/1	75
Methodist Hospital*[1]	Brooklyn	R Waelsch	9,235	3,232	1	7/1	25
St Catherine's Hospital*[1]	Brooklyn	F P Ansbro	3 879	1,068	2	7/1	100
Unity Hospital*[1]	Brooklyn	B A Greene	2 715	952	1	7/1	100
Buffalo General Hospital*	Buffalo	C J Durchordwe	11,571	5,940	3	7/1	25
Edward J Meyer Memorial Hospital*	Buffalo	P W Searles	4 068	2,520	2	7/1	100
Millard Fillmore Hospital*	Buffalo	P W Searles	9 040	1,270	1	7/1	50
Flushing Hospital and Dispensary*[1]	Flushing N Y	F Apogi	6,510	5,916	1		
†Mary Immaculate Hospital*[1]	Jamaica N Y	G Frank			3	7/1	75
Bellevue Hospital Div III—New York Univ *[1]	New York City						
Beth Israel Hospital*[2]	New York City	S G Hershey	4,854	2 365	4	1/1 7/1	50
Flower and Fifth Avenue Hospitals*[1]	New York City	D E Brace	8 033	5 497	1	7/1	
French Hospital*[1]	New York City	S Lesinger	3 106	2 023	3	7/1	100
Goldwater Memorial Hospital*[1]	New York City	E A Rovenstine	[illegible]	820	2	7/1	160 41
Hospital for Joint Diseases*[1]	New York City	A M Betcher	3 552	2,506	2	7/1	40
Hospital for Special Surgery[1]	New York City	C Burstein	2,500	2,019	2	7/1 10/1	100
Lenox Hill Hospital*[1]	New York City	M Frick	9,273	6,545	2	Varies	50
Metropolitan Hospital*	New York City	F E Fierro	3 304	2,532	4	7/1	130
Montefiore Hospital for Chronic Diseases*[1]	New York City	B Cohen			1		
Mount Sinai Hospital*	New York City	B H Ellasberg	9,249	5,297	2		
New York City Hospital*[1]	New York City	D Bizzari	3 014	1,258	3	7/1	229 16
New York Hospital*[1]	New York City	J Artusio	14 400	10 065	2	7/1	25
New York Polyclinic Medical School and Hospital*[1]	New York City	S Resnick	6,345	2 523	2	7/1	100
Presbyterian Hospital*[1]	New York City	F M Papper	17 002	12 804	20	1/1 7/1	41 66
St Clare's Hospital*	New York City	R A Rose	5,329	2 060	1	7/1	25
St Luke's Hospital*	New York City	C E Burford	7,548	2,553	3	7/1	50
St Vincent's Hospital*	New York City	V J Collins	4 601	3,542	3	7/1	50
Sydenham Hospital*	New York City	M C Fleschman	2 085	1 155	1	7/1	130
University Hospital*[1]	New York City	R W Robertazzi	5 186	3 406	6	1/1 5/15	110
Rochester General Hospital*[1]	Rochester N Y		5 587	3 134	2	7/1	55
St Mary's Hospital*[1]	Rochester N Y	D Bianchi	7 561	4 762	2	7/1	125
Ellis Hospital*[1]	Schenectady N Y	H A Snell	7,920	5 897	2	7/1	100
Syracuse University Medical Center Hospitals*	Syracuse N Y	E. J Delmonico	7 178	2 057		7/1	125
Grasslands Hospital*[1]	Valhalla N Y	H F Bishop	1,559	693	2	7/1	125
Duke Hospital*[1]	Durham N C	R Martin	11 863	5,915	3	7/1	83.33
†Mercy Hospital*	Canton Ohio	L. L Frick	7 279	5,221	1	7/1	100
Christ Hospital*	Cincinnati	L E. Larrick	7 464	1,392		7/1	90
Cleveland Clinic Hospital[1]	Cleveland	D E Hale	8 335	1 527	6	7/1	135
†Mount Sinai Hospital*[1]	Cleveland	S Katz	7 074	4,261	2	7/1	100
St Luke's Hospital*[1]	Cleveland	B B Sankey	11,240	4 658	2	7/1	75
Woman's Hospital[1]	Cleveland	M Oppenheim	3 782	2,269	1		100
Ohio State University Hospitals*[1]	Columbus Ohio	J J Jacoby	6 497	3 046	3	7/1	50
Huron Road Hospital*[1]	East Cleveland Ohio	R J Whitacre	17 407	5 787	6	7/1	75
†Lakewood Hospital*	Lakewood Ohio	S Gardner	4 640	2,946		7/1	100
Maumee Valley Hospital*[1]	Toledo Ohio	K C McCarthy	1,260	559	1	7/1	125
St Elizabeth's Hospital*	Youngstown Ohio	A J Bayuk	9 509	5,264	1	7/1	115
Youngstown Hospital*[1]	Youngstown Ohio	A J Fisher	12,939	5,989	2	1/1 7/1	75
University Hospitals*[1]	Oklahoma City	H A Bennett	3 932	3,290	5	7/1	35
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore.	F Haugen	10 072	3 041	4	7/1	75
Abington Memorial Hospital*[1]	Abington Pa	R W Malo	5 469	3 644	2	7/1	100
Graduate Hospital of the University of Pennsylvania*	Philadelphia	H H Stone	4,842	3 559		7/1	
Hahnemann Hospital*[1]	Philadelphia	H S Ruth	9 391	3 375	10	Varies	50
Hospital of the University of Pennsylvania*[1]	Philadelphia	R D Dripps	13 916	6,235	18	Varies	100
†Hospital of the Woman's Medical College of Pennsylvania*[1]	Philadelphia	W Weiss	3 016	1 445	2	7/1	60
†Jewish Hospital*[1]	Philadelphia		7 425	4 694	3	1/1 7/1	250
Lankenau Hospital*[1]	Philadelphia	C S Turville	4 659	2,857	1	7/1	50
†Mount Sinai Hospital*[1]	Philadelphia	A T Rose	3 771	2 166	3	6/14	100
†Philadelphia General Hospital*[1]	Philadelphia	E. M Kistler	5 477	2 414	4	7/1	75
Presbyterian Hospital*	Philadelphia	S Schotz	4 602	2,899	2	1/1 7/1	
Temple University Hospital*[1]	Philadelphia	L. W Krumperman	15 151	5,222	5	7/1	50
Women's Homeopathic Hospital*[1]	Philadelphia	E P Van Tine	1,939	585	1	7/1	175
Allegheny General Hospital*	Pittsburgh	R L. Patterson	8 687	3 474	4	7/15	100
Mercy Hospital*[1]	Pittsburgh	F F Foldes	11 933	4 498	5	7/1	150
Montefiore Hospital*[1]	Pittsburgh	I Greenfield	6 049	3,225	2	7/1	109
St Francis Hospital*	Pittsburgh	G J Thomas	4,215	4 643	1	7/1	100
Reading Hospital*[1]	Reading		6 721	3 760	4	7/1	100
Robert Packer Hospital*	Sayre Pa	W Brehm	6 755	2,760	1	7/1	150
†Christian H Buhl Hospital	Sharon Pa	I W Flamberg	5 003	3,994	2	1/1 7/1	200
Rhode Island Hospital*[1]	Providence R. I	M Saklad	8 482	3,844	2	7/1	50

Numerical and other references will be found on page 1215

2 ANESTHESIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Total Anesthetics	Inhalation Anesthetics	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Baroness Erlanger Hospital*[1]	Chattanooga, Tenn		2 766	4,503		7/1	75
†John Gaston Hospital*	Memphis, Tenn	L T Vernon	7,338		2	7/1	
Vanderbilt University Hospital*[1]	Nashville, Tenn	B H Robbins	5,146	3,018	2	7/1	35 41
Baylor University Hospital*[1]	Dallas Texas	F I Weir	15,816	5,835	5	7/1	50
†Harris Hospital*[1]	Fort Worth, Texas	H C Broadhead	8,241	4,875	1	7/1	100
University of Texas Medical Branch Hospitals John Sealy Hospital*[1]	Galveston, Texas	H C Slocum	4,500	2,000	7	1/1, 7/1	50
Hermann Hospital*[1]	Houston Texas	L F Schuhmacher	7 430	1,785	1	7/1	50
University of Utah Affiliated Hospitals[68]	Salt Lake City		13 985	9,392	3		
Bishop De Goesbriand Hospital*	Burlington Vt	T Abajian	1 880	851	2	1/1	100
Mary Fletcher Hospital*[1]	Burlington Vt	J Abajian	2,297	654	2	7/1	50
†Medical College of Virginia Hospital Division*	Richmond, Va	W B Pendleton	11 936	5,074	2		
King County Hospital, Unit No 1 (Harborview)*[1] [10]	Seattle Wash		3,244	2,107	2	7/1	90
Providence Hospital*[1]	Seattle Wash	G A Dodds	8,555	7,038	3	7/1	100
†Virginia Mason Hospital*[1]	Seattle Wash	D C Moore	3 784	3 095	2	1/1	100
Tacoma General Hospital*	Tacoma Wash	J J Bonica	8 675	4,837	3	7/1	200
State of Wisconsin General Hospital*	Madison, Wis	A M Mackay	5,045	4,760	8	1/1 7/1	25
†Milwaukee County Hospital*[1]	Milwaukee	D Gatherum	1 307	1,907	2	7/1	175 58
†Mount Sinai Hospital*	Milwaukee	W S Phillips	3 567	2,585	1	7/1	

3 CARDIOVASCULAR DISEASE

The following services are approved by the Council and the American Board of Internal Medicine
Hospitals, 19 Assistant Residencies and Residencies 37

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army									
Letterman General Hospital*	San Francisco	B F Pollock	212	427	85	31	1	1/1, 7/1	n
Fitzsimmons General Hospital*	Denver, Colo	F M Goyette	789	430	35	23		1/1 7/1	n
Army Medical Center*[1]	Washington D C	T S Taylor	260	4,334	8	7	1	7/1	n
United States Navy									
U S Naval Hospital*[1]	Bethesda, Md	R C Parker	821	978	79	32			n
Veterans Administration									
Veterans Admin Hospital	Hines Ill	L A Baker	1,547		173	72		1/1, 7/1	n
Nonfederal									
Michael Reese Hospital*[1]	Chicago	L N Katz					13		
Indiana University Medical Center*[1]	Indianapolis			1,329			1	7/1	85
Massachusetts General Hospital*[62]	Boston								
Henry Ford Hospital*[1]	Detroit	F J Smith	1,131	17,149	110	46	3	7/1	200
†Irvington House[1]	Irvington, N Y	A C D Graff	100	480	0	0	1	7/1	200
†Mount Sinai Hospital*	New York City	G Baehr					3		
†St Francis Sanatorium for Cardiac Children[1]	Roslyn L I, N Y	I M Taran	255	0	6	2	3	7/1	200
White Cross Hospital*	Columbus, Ohio	R W Kissane	417		73	17	1	7/1	100
Hospital of the Woman's Medical College of Pennsylvania*[1]	Philadelphia								
Pennsylvania Hospital*	Philadelphia	J B Van der Veer		2 951			2		20
Philadelphia General Hospital*[1]	Philadelphia	T McMillan		7 206			5	7/1	75
St Francis Hospital*	Pittsburgh	A P D'Zmura	2,036	299	32	28	2	7/1	100
Rhode Island Hospital*[1]	Providence, R I	F B Cutts		602			1	7/1	50
University of Texas Medical Branch Hospitals John Sealy Hospital*[1]	Galveston, Texas	C T Stone	1 092	1,343	188	105			

4 CONTAGIOUS DISEASES

The following services are approved by the Council on Medical Education and Hospitals
Hospitals 14 Assistant Residencies and Residencies, 60

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Nonfederal									
Children's Hospital*[1]	San Francisco	E B Shaw	693	0	25	18	1	7/1	50
Cook County Hospital*[1]	Chicago	H Leichenger	1,143		41	27	2	1/1, 7/1	32
Municipal Contagious Disease Hospital[1]	Chicago	A L. Hoyne	2,152	3 480	72	62	6		147 50
Sydenham Hospital	Baltimore								
Boston City Hospital*[1]	Boston	E. H Place	1 627		22	12			
Massachusetts Memorial Hospitals*[1]	Boston	L. Weinstein	1,409		43	30	6	7/1	60
Belmont Hospital[1]	Worcester, Mass	W D MacDonald	692	0	5	2	2	1/1	125
Herman Kiefer Hospital[1]	Detroit	D C Young	1,172		75	50	3	7/1	385
Essex County Hosp for Contagious Diseases[1]	Belleville, N J	E L Smith	2,061		32	14	2	1/1, 7/1	155
Kingston Avenue Hospital[1]	Brooklyn	T Givan	3,458		117	80	9	1/1, 7/1	130
Queens General Hospital*[1]	Jamaica, N Y	H A Reisman	750		27	10	2	7/1	
Willard Parker Hospital[1]	New York City	T F Landon	4,583		61	30	19	1/1, 7/1	50
City Hospital*	Cleveland	T A Toomey	1 446		77	40	4	1/1, 7/1	60
Philadelphia Hosp for Contagious Diseases[1]	Philadelphia	A C LaBoccetta	2,779	0	78	37	4	1/1	190

Numerical and other references will be found on page 1215

5 DERMATOLOGY AND SYPHILOLOGY

The following services are approved by the Council and the American Board of Dermatology and Syphilology
Hospitals 80 Assistant Residencies and Residencies, 238

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital*	San Francisco	R S Higdon	287	6,572	2	1	3	1/1 7/1	2	n
Army Medical Center*15	Washington D C	F H Crauer	272	7 031	0	0	6	7/1	3	n
Brooke Army Medical Center*14	San Antonio Tex	C B White	810	12 052	0	0	0	7/1	2	n
United States Navy										
U S Naval Hospital	San Diego Calif	J K MacClatchie	770	5 041	0	0	4		2	n
U S Naval Hospital	St Albans N Y	C D Bell	516	2 060	1	1	6		2	n
U S Naval Hospital*	Philadelphia	R L Gilman	516	4 265	2	0	2	1/1 7/1	2	n
United States Public Health Service										
U S Marine Hospital*1	Stapleton S I N Y	B J Chester	1,089	20,249			5	7/1	2	n
Federal Security Agency										
Freedmen's Hospital*1	Washington D C	C W Freeman	55	11 705	2	1	1	7/1	2	n
Veterans Administration										
Veterans Admin Center*1	Los Angeles	T H Sternberg	612	1 186	6	5	5	7/1	2	n
Veterans Admin Hospital*1	Van Nuys Calif	M E Obermayer	403	4 405	0	0	2		2	n
Veterans Admin Hospital	Hines Ill	F A Oliver	1 105		10	7	3	1/1 7/1	2	n
Veterans Admin Hospital	New Orleans La	C B Kennedy	177	1 493	0	0		7/1	1	n
Veterans Admin Hospital	Fort Howard Md	M Sullivan	137	100	2	2	4	7/1	3	n
†Veterans Admin Hospital 1	Minneapolis	H F Michelson	404	500	0	0	3	7/1	3	n
Veterans Admin Hospital 1	New York City	J C Horkin	507	5 320	4	2	3	1/1	3	n
Veterans Admin Hospital	Aspinwall Pa	S H Crawford	304		1	1			1	n
Nonfederal										
Jefferson Hillman Hospital*1	Birmingham Ala	R Noojin	239	4 651	3	2	3	7/1	3	50
Employees Hospital of Tennessee Coal Iron and Railroad Company*	Fairfield Ala	P G Reque	163	12 007			1	7/1	1	225
Los Angeles County Hospital*	Los Angeles	N P Anderson	810	17 050	18	5	3	Varie	3	165
White Memorial Hospital*	Los Angeles	C F Counter	24	22 013	1	0	2	7/1	1	120
Stanford University Hospital**1	San Francisco	O F L Schmidt	35	9 669	0	0	1	7/1	1	50
University of California Hospital*1	San Francisco	F A Torrey	24	7 710	0	0	3	7/1	3	75
University of Colorado Medical Center Colorado General Hospital*	Denver	O S Philpott	19	4 287	1	1	1	7/1	1	75
Chicago Intensive Treatment Center 1	Chicago	J Rodriquez	3 555	13 496	0	0	1		1	179 50
Cook County Hospital*1	Chicago	T Cornbleet	109	10 179	34	8	2	1/1 7/1	3	32
Michael Reese Hospital*1	Chicago	F P Lieberthal	171	6 618	1	1	1		1	25
Northwestern University Medical Center	Chicago	F A Oliver							3	
Research and Educational Hospital**1	Chicago	F F Senar	39	14 458	1	1	1	7/1	3	50
University of Chicago Clinics*	Chicago	S Rothman	[illegible]		2	0	8	7/1	*	25
Indianapolis General Hospital*1	Indianapolis	J Brayton	109	8 441	3	1	3	7/1	3	80
University Hospitals*1	Iowa City	R Nomland	119	2 809	3	1	3		3	
University of Kansas Medical Center*	Kansas City Kan	R Sutton	63	1 790			1	7/1	1	100
Charity Hospital of Louisiana*1	New Orleans		455	38 278	1	1	4	7/1	3	25
Johns Hopkins Hospital*2	Baltimore			24 727					1	
University Hospital*1	Baltimore	H M Robinson Sr	71	27 859	0	0		7/1	2	75
Boston City Hospital*1	Boston	J G Downing	50	22 541	1	0	2	7/1	2	90
Massachusetts General Hospital*	Boston								3	
Massachusetts Memorial Hospital*1	Boston	J C Downing and W L Fleming		11 486			1	8/1	1	50
University Hospital*1	Ann Arbor Mich	A C Curtis	529	9 408	0	9	14	7/1	3	130 00
City of Detroit Receiving Hospital*1	Detroit	L W Shaffer	16	6 831			8		3	
Minneapolis General Hospital*	Minneapolis	C W Laymon	763	5 836	1	1	2	1/1 7/1	3	125
University of Minnesota Hospitals*1	Minneapolis	H Michaelson	94	5 019	6	6	8	7/1	3	125
Mayo Foundation	Rochester Minn	P A O Leary					12		3	97.50
Ancker Hospital*1	St Paul	J F Madden	406	3 807	4	4	2	7/1	3	91.50
Meridian Public Health Treatment Center	Meridian Miss								1	110
Barnard Free Skin and Cancer Hospital	St Louis	R S Weiss	53	13 257	1	1	2	7/1	3	110
Barnes Hospital*	St Louis								3	
St Mary's Group of Hospitals *1	St Louis	C V Stryker	119	6 410			3	7/1	3	35
Mary Hitchcock Memorial Hospital*1	Hanover N H	W C Lobitz Jr	121	5 556			1	7/1	2	150
Kings County Hospital*1	Brooklyn	C T Chiaramonte	701	19,865	14	1	2	7/1	1	80
Buffalo General Hospital*	Buffalo	F D Osborne		3 302			1	7/1	2	50
Edward J Meyer Memorial Hospital*1	Buffalo	E D Osborne	179	9 700	1		3	7/1	3	100
Bellevue Hospital Div III—N Y Univ *1	New York City								3	
Columbia Presbyterian Medical Center*1	New York City	A B Cannon		35 720			2	7/1	3	75
Mount Sinai Hospital*	New York City	S M Peck					1		2	
New York City Hospital*1	New York City	I J Eller	642	9 637	5	1	2	7/1	1	130
New York Hospital*1	New York City	Drs Lewis and Webster		22 590			1	7/1	3	25
†New York Polyclinic Medical School and Hosp *	New York City	A C Cipollaro	76	7 623	1	1	1	7/1	3	50
Roosevelt Hospital*1	New York City	G C Andrews	18	10 365	0	0	1	7/1	1	41 67
St Luke's Hospital*	New York City	L P Barker		11 315			1	7/1	2	50
University Hospital*	New York City	M Sulzberger	150	106 056	5	2	6	10/1	3	50
Duke Hospital*1	Durham N C	J L Callaway	229	2 710	1	1	3	7/1	3	83 33
Eastern Medical Center 2	Durham N C								1	
Cincinnati General Hospital*	Cincinnati	L. Goldman	307	7 517	3	1	0	7/1	3	
City Hospital*1	Cleveland	H N Cole Sr	908	3 097	4		3	7/1	3	60
Cleveland Clinic Hospital 1	Cleveland	E. W Netherton	152	20 891	2	2	5	7/1	3	135
University Hospitals*1	Cleveland	H N Cole	214	14 176	0		3	7/1	3	25
University of Oregon Medical School Hospitals and Clinics*1	Portland Ore	L. B Kingery	35	5 595	2	2	3	7/1	2	75
Graduate Hospital of the University of Pennsylvania*	Philadelphia	M Samitz	53	6 705	2	1	2	7/1	2	
Hospital of the University of Pennsylvania*1	Philadelphia	D M. Pillsbury	692	15 155			22	Varies	3	
Jefferson Medical College Hospital*	Philadelphia	E F Carson	94	12 764	2	1	4		2	
Pennsylvania Hospital*	Philadelphia	H Beerman		8 149					1	
Philadelphia General Hospital*1	Philadelphia	N Ingraham	263	10 134	0	1	1	7/1	1	75
Skin and Cancer Hospital	Philadelphia	D M Pillsbury and C S Wright	425	47 610	3	0	4	Varies	2	50
Pittsburgh Medical Center 69	Pittsburgh								3	
†Parkland Hospital*1	Dallas Texas	B Shelmire	22	41 257			2	7/1	1	50
University of Texas Medical Branch Hospitals John Sealy Hospital*1	Galveston Texas	C Livingood	110	6 745	4	3	3	7/1	3	50
University of Virginia Hospital*	Charlottesville Va	D O Smith	204	11 015	4	8	6	7/1	3	
Medical College of Virginia Hospital Division*	Richmond Va	R Fowlkes		8 245					1	
†State of Wisconsin General Hospital*1	Madison Wis	S A M Johnson	218	8,970	3	3	1	1/1, 7/1	1	25

Numerical and other references will be found on page 1215

8 INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Beginning Stipend (Month)
U S Marine Hospital*[1]	New Orleans	R H Smith	3 160	6 655	80	55	6	7/1	n
U S Marine Hospital*[1]	Baltimore	I L Terry	2,114	8 137	56	38	7	7/1	n
U S Marine Hospital*	Boston	W S Baum	2 239	9 124	45	35	3	7/1	n
U S Marine Hospital*[1]	Stapleton S I N Y	A A Doerner	2 676	12 709	61	48	4	7/1	n
U S Marine Hospital*[1]	Seattle	R L Griffith	2,552	18 323	129	95	6	7/1	n
Federal Security Agency									
Freedmen's Hospital*[1]	Washington D C	J B Johnson	874	7 650	181	75	7	7/1	n
Veterans Administration									
Veterans Admin Hospital[1]	Tuskegee Ala	E T Odom	1 912	2 681	73	38	6	7/1	n
Veterans Admin Center*[1]	Los Angeles	R O Egeberg	6 732	18 143	137	107	54	7/1	n
Veterans Admin Hospital[1]	San Francisco	G E Hein	1 877	3 581	96	71	20	7/1	n
Veterans Admin Hospital*[1]	Van Nuys Calif	F W S Modern	3 558	25 191	156	134	38	1/1 7/1	n
Veterans Admin Hospital[1]	Fort Logan Colo	T P Sears	1,536	0	56	45	16	7/1	n
Veterans Admin Hospital	Newington Conn	P Kunkel	1 607	128	114	84	17	7/1	n
Veterans Admin Hospital[1]	Washington D C	L K Alpert	1,325	3 521	80	70	13	7/1	n
Veterans Admin Hospital	Coral Gables Fla	J M Rumball	2,209	2,511	167	139	12	7/1	n
Veterans Admin Hospital[1]	Augusta Ga	J R. Kaufman	507	318	13	8	4	1/1 7/1	n
Veterans Admin Hospital	Chamblee Ga	M Michael Jr	4,327	143	128	89	14	7/1	n
Veterans Admin Hospital	*Hines Ill*	*L A Baker*	*4 374*		*290*	*208*	*50*	*1/1 7/1*	*n*
Veterans Admin Hospital	Indianapolis	W A Christian	1 650		126	96	10	1/1 7/1	n
Veterans Admin Center	Des Moines Iowa	D J Glomset	2,981		162	103	12	7/1	n
Veterans Admin Hospital[1]	Topeka Kan	R Che s	2 732		75	65	10	7/1	n
Veterans Admin Center[1]	Wadsworth Kan	M Slavin	3 6 6		239	199	15	1/1 7/1	n
Veterans Admin Hospital[1]	Wichita Kan	T J Rankin	1 903		62	52	8	1/1 7/1	n
Veterans Admin Hospital[1]	Louisville Ky	J R. Gott Jr	3,231	7 904	160	110	28		n
Veterans Admin Hospital[1]	New Orleans	C A Jones	1 327	1 782	59	50	16	7/1	n
Veterans Admin Hospital	*Perry Point Md*	*S Goldgraben*	*960*	*100*	*19*	*15*	*3*	*7/1*	*n*
Veterans Admin Hospital (West Roxbury)	Boston	T A Warthin	1 084	1,977	116	81	14	1/1 7/1	n
Veterans Admin Hospital[1]	Framingham Mass	M B Strau s	3 856	1 672	117	77	24	7/1	n
Veterans Admin Hospital	Dearborn Mich	H J Kullman	3 763	10 704	236	148	25	7/1	n
Veterans Admin Hospital[1]	Minneapolis	R V Ebert	3 835	5 470	203	167	32	7/1	n
Veterans Admin Hospital[1]	Jefferson Bks Mo	E D Wall	3,590		248	170	26	7/1	n
Veterans Admin Hospital	Lincoln Neb	O V Calhoun	911		80	45	6	1/1 7/1	n
Veterans Admin Hospital	Albuquerque N M	W S Taylor	455		11	10	11	7/1	n
Veterans Admin Hospital[1]	Batavia N Y	J T Roberts	1 407	2 007	104	57	10	7/1	n
Veterans Admin. Center	Bath N Y	A S Dowling	1 968	21 281	129	90	10	1/1 7/1	n
Veterans Admin Hospital[1]	New York City	B Straus	4,275	26 431	443	234	30	7/1	n
Veterans Admin Hospital[1]	Staten Island N Y	A M Kleinman	2 190	2 046	149	126	23	1/1 7/1	n
Veterans Admin Hospital[1]	Cleveland	N P Shumway	3 576		216	150	27	7/1	n
Veterans Admin Center	Dayton Ohio	A. Tomasulo	2,071	104 818	275	175	27	7/1	n
Veterans Admin Hospital[1]	Oklahoma City	H H Stone	1,274		44	32	6	7/1	n
Veterans Admin Hospital	Portland Ore	J H Mills	2 801		151	132	15	1/1 7/1	n
Veterans Admin Hospital	Aspinwall Pa	R Schwartz	2,300		250	148	26	1/1 7/1	n
Veterans Admin Hospital	*Columbia S C*	*S L. Zimmerman*	*3 493*		*205*	*71*	*10*		*n*
Veterans Admin Hospital	Memphis Tenn	J E Cottrell	4 921	21,382	153	86	24	7/1	n
Veterans Admin Hospital	Nashville Tenn	R Franco					20	7/1	n
Veterans Admin Hospital[1]	Dallas Texas	C W Sensenbach	590		43	82	18	1/1	n
Veterans Admin Hospital[1]	McKinney Texas	B Friedman	2,028		88	65	20	7/1	n
Veterans Admin Hospital[1]	Salt Lake City	J O Nunemaker	1 482	2 673	72	68	11	7/1	n
Veterans Admin Center[1]	White River Jct , Vt	A Yeomans	1 910	13	52	44	9	7/1	n
Veterans Admin Hospital[1]	Richmond Va	J P Williams	4,553		171	95	30	7/1	n
Veterans Admin Center[1]	Milwaukee	M W Garry	2,731	8 748	202	152	26	7/1	n
Nonfederal									
*Carraway Methodist Hospital**	*Birmingham Ala*	F D Lineberry and Dr McCarn	1 556	5 371	57	21	3	7/1	150
Jefferson Hillman Hospital*[1]	Birmingham Ala	W Riser	3,510	17 292		457	11	7/1	50
Employees Hospital of the Tennessee Coal Iron and Railroad Company*	Fairfield Ala	G M Hankins	1 998	30 452	159	52	0	7/1	225
City Hospital*	Mobile Ala	G O Segre t	1 837	1 834	155	73	6	7/1	150
St Joseph s Hospital*	Phoenix Ariz	R S Flinn	1 752		78	42	1	7/1	150
St Mary s Hospital and Sanatorium*[1]	Tucson Ariz.	H W Kohl	2,276	604	146	52	3	7/1	175
Tucson Medical Center*[1]	Tucson Ariz.	B Bloom	2 207	522	73	38			
Arkansas Baptist Hospital*[1]	Little Rock Ark	S T Cull	5 504		236	37	1	7/1	100
University Hospital*[1]	Little Rock Ark	B B Wells	662	9 090	89	45	8	7/1	75
San Joaquin General Hospital*[1]	French Camp Calif	G Wever	2 440	24,349	591	241	4	7/1	220
General Hospital of Fresno County*[1]	Fresno Calif	K. B Holmes	1,254	11 646	339	114	3	7/1	218
Glendale Sanitarium and Hospital*	Glendale Calif	H J Hoxie	2,800		209	104	4	7/1	160
Seaside Memorial Hospital*[1]	Long Beach Calif	F Kellogg	3 034		218	54	1	7/1	150
California Hospital*	Los Angeles	W Wessels	2 413	13 967	255	128	3	7/1	100
Cedars of Lebanon Hospital*[1]	Los Angeles		2 809	12 262	298	112	2	7/1	75
*Hospital of the Good Samaritan**[1]	*Los Angeles*	E R Ware	3 137	9 025	173	77	4	7/1	150
Los Angeles County Hospital*[1]	Los Angeles	L T Bullock	19 006	54,508	2,219	702	33	Varies	165
Queen of Angels Hospital*	Los Angeles	K. Smith	2 184	293		103	2	1/15	100
St Vincent s Hospital*	Los Angeles	J O Ruddock	2 014		170	67	1	7/1	100
White Memorial Hospital*	Los Angeles	W E MacPherson	1,326	28 969	121	61	3	7/1	120
Highland Alameda County Hospital*[1]	Oakland Calif	H Rogers	2 511		250	188	1		135
Permanente Foundation Hospital*[1]	Oakland Calif	M F Collen	1 672	42 545	126	61			
Samuel Merritt Hospital	Oakland Calif	F B Taylor	1 141		105	48	2	7/1	110
Collis P and Howard Huntington Memorial Hospital*	Pasadena Calif	R F Webb	1 879		199	117	3	7/1	130
Mercy Hospital*	San Diego Calif	E M Fetter	1,504	701	120	29	2	7/1	100
San Diego County General Hospital*[1]	San Diego Calif	J M. Rumsey	2 196	15 671	452	210	5	7/1	125
Childrens Hospital*[1]	San Francisco	D Atkinson	650	2,005	32	14	1	7/1	50
Franklin Hospital*[1]	San Francisco	C D Mote	1 784		184	57	4	7/1	100
French Hospital*[1]	San Francisco	D L. Wilbur	1 907		173	47	2	7/1	105
Mary s Help Hospital*[1]	San Francisco	F Rochex	1 338	8 018	93	32	2	7/1	150
Mount Zion Hospital*[1]	San Francisco	A L Cohn and J J Sampson	1 423	6 083	142	95	4		50
St Joseph s Hospital*[1]	San Francisco	W W Port	2 183	100	26	16	1	7/1	200
St Luke s Hospital*[1]	San Francisco	E L Bruck	2 043	2 624	208	75	2	7/1	100
St Mary s Hospital*[1]	San Francisco	J J McGinnis	1,223	3 718	91	30	2	7/1	100
San Francisco Hospital*[1]	San Francisco						9	7/1	175
Southern Pacific General Hospital*	San Francisco	R E Allen	3 402		124	57	5	7/1	
Stanford University Hospitals*[1]	San Francisco	A L Bloomfield	2,147	26 242	126	74	16	7/1	50
University of California Hospital*[1] [44]	San Francisco	W J Kerr	1,528	31 323	62	65	9	7/1 8/1	75

Numerical and other references will be found on page 1215

8 INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Beginning Stipend (Month)
U S Marine Hospital*¹	New Orleans	R H Smith	3 169	6 655	80	55	6	7/1	n
U S Marine Hospital*¹	Baltimore	I L Terry	2,114	8 137	56	38	7	7/1	n
U S Marine Hospital*	Boston	W S Baum	2 239	9 124	45	35	3	7/1	n
U S Marine Hospital*¹	Stapleton S I N Y	A A Doerner	2 676	12 709	61	48	4	7/1	n
U S Marine Hospital*¹	Seattle	R L Griffith	2,552	16 323	129	95	6	7/1	n
Federal Security Agency									
Freedmen's Hospital*¹	Washington D C	J B Johnson	874	7 650	181	75	7	7/1	n
Veterans Administration									
Veterans Admin Hospital¹	Tuskegee Ala	E T Odom	1 912	2 681	73	38	6	7/1	n
Veterans Admin Center*¹	Los Angeles	R O Egeberg	6 732	18 143	137	107	54	7/1	n
Veterans Admin Hospital¹	San Francisco	G E Hein	1 877	3 581	96	71	20	7/1	n
Veterans Admin Hospital*¹	Van Nuys Calif	F W S Modern	3 508	25 191	156	134	38	1/1 7/1	n
Veterans Admin Hospital¹	Fort Logan Colo	T P Sears	1,536	0	56	45	16	7/1	n
Veterans Admin Hospital	Newington Conn	P Kunkel	1 607	128	114	84	17	7/1	n
Veterans Admin Hospital¹	Washington D C	L K Alpert	1,325	3 521	80	70	13	7/1	n
Veterans Admin Hospital	Coral Gables Fla	J M Rumball	2,209	2,511	167	139	12	7/1	n
Veterans Admin Hospital¹	Augusta Ga	J R Kaufman	507	818	13	8	4	1/1 7/1	n
Veterans Admin Hospital	Chamblee Ga	M Michael Jr	4,327	143	128	89	14	7/1	n
Veterans Admin Hospital	*Hines Ill*	*L A Baker*	*4 374*		*190*	*103*	*50*	*1/1 7/1*	*n*
†Veterans Admin Hospital	Indianapolis	W A Christian	1 050		126	96	10	1/1 7/1	n
Veterans Admin Center	Des Moines Iowa	D J Glomset	2,981		162	103	12	7/1	n
Veterans Admin Hospital¹	Topeka Kan	R Che s	2 732		75	65	10	7/1	n
Veterans Admin Center¹	Wadsworth Kan	M Slavin	3 6 6		239	199	15	1/1 7/1	n
Veterans Admin Hospital¹	Wichita Kan	T J Rankin	1 903		62	52	8	1/1 7/1	n
Veterans Admin Hospital¹	Louisville Ky	J R Gott Jr	3,231	7 904	160	110	28		n
Veterans Admin Hospital¹	New Orleans	C A Jones	1 327	1 782	59	50	16	7/1	n
Veterans Admin Hospital	*Perry Point Md*	*S Goldgraben*	*960*	*100*	*19*	*15*	*3*	*7/1*	*n*
Veterans Admin Hospital (West Roxbury)	Boston	T A Warthin	1 084	1,977	110	81	14	1/1 7/1	n
Veterans Admin Hospital¹	Framingham Mass	M B Strauss	3 880	1 072	117	77	24	7/1	n
Veterans Admin Hospital	Dearborn Mich	H J Kullman	3 703	10 704	236	148	25	7/1	n
Veterans Admin Hospital¹	Minneapolis	R V Ebert	3 835	5 470	203	167	32	7/1	n
Veterans Admin Hospital¹	Jefferson Bks Mo	L D Wall	3,590		248	170	26	7/1	n
Veterans Admin Hospital	Lincoln Neb	O N Calhoun	911		80	45	6	1/1 7/1	n
Veterans Admin Hospital	Albuquerque N M	W S Taylor	455		11	10	11	7/1	n
Veterans Admin Hospital¹	Batavia N Y	J T Roberts	1 407	2 007	104	57	10	7/1	n
Veterans Admin. Center	Bath N Y	A S Dowling	1 968	21 281	129	90	10	1/1 7/1	n
Veterans Admin Hospital¹	New York City	B Straus	4,275	26 431	443	234	30	7/1	n
Veterans Admin Hospital¹	Staten Island N Y	A M Kleinman	2 190	2 046	149	126	23	1/1 7/1	n
Veterans Admin Hospital¹	Cleveland	N P Shumway	3 576		216	150	27	7/1	n
Veterans Admin Center	Dayton Ohio	A Tomasulo	2,071	104 818	275	175	27	7/1	n
Veterans Admin Hospital¹	Oklahoma City	H H Stone	1,274		44	32	6	7/1	n
Veterans Admin Hospital	Portland Ore	J H Mills	2 801		151	132	15	1/1 7/1	n
Veterans Admin Hospital	Aspinwall Pa	R Schwartz	2,300		250	148	26	1/1 7/1	n
Veterans Admin Hospital	*Columbia S C*	*S L Zimmerman*	*3 493*		*205*	*71*	*10*		*n*
Veterans Admin Hospital	Memphis Tenn	J L Cottrell	4 921	21,382	153	86	24	7/1	n
Veterans Admin Hospital	Nashville Tenn	R Franco					20	7/1	n
Veterans Admin Hospital¹	Dallas Texas	C W Sensenbach	590		43	82	18	1/1	n
Veterans Admin Hospital¹	McKinney Texas	B Friedman	2,028		88	65	20	7/1	n
Veterans Admin Hospital¹	Salt Lake City	J C Nunemaker	1 482	2 673	72	68	11	7/1	n
Veterans Admin Center¹	White River Jct, Vt	A Yeomans	1 910	13	52	44	9	7/1	n
Veterans Admin Hospital¹	Richmond Va	J P Williams	4,558		171	95	30	7/1	n
Veterans Admin Center¹	Milwaukee	M W Garry	2,731	8 748	202	152	26	7/1	n
Nonfederal									
*Carraway Methodist Hospital**	*Birmingham Ala*	F D Lineberry and Dr McCarn	1 546	5 371	57	21	3	7/1	150
Jefferson Hillman Hospital*¹	Birmingham Ala	W Riser	3,510	17 292		457	11	7/1	50
Employees Hospital of the Tennessee Coal Iron and Railroad Company*	Fairfield Ala	G M Hankins	1 998	30 452	159	52	0	7/1	225
City Hospital*	Mobile Ala	G O Segrest	1 837	1 834	155	73	6	7/1	150
St Joseph's Hospital*	Phoenix Ariz	R S Flinn	1 752		78	42	1	7/1	150
St Mary's Hospital and Sanatorium*¹	Tucson Ariz.	H W Kohl	2,270	604	146	62	3	7/1	175
Tucson Medical Center*¹	Tucson Ariz.	B Bloom	2 207	522	73	38			
Arkansas Baptist Hospital*¹	Little Rock Ark	S T Cull	5 504		236	37	1	7/1	100
University Hospital*¹	Little Rock Ark	B B Wells	602	9 090	89	45	8	7/1	75
San Joaquin General Hospital*¹	French Camp Calif	G Wever	2 440	24,349	581	241	4	7/1	220
General Hospital of Fresno County*¹	Fresno Calif	K B Holmes	1,254	11 646	339	114	3	7/1	218
Glendale Sanitarium and Hospital*	Glendale Calif	H J Hoxie	2,800		209	104	4	7/1	160
Seaside Memorial Hospital*¹	Long Beach Calif	F Kellogg	3 034		218	64	1	7/1	150
California Hospital*	Los Angeles	W Wessels	2 413	13 067	255	128	3	7/1	100
Cedars of Lebanon Hospital*¹	Los Angeles		2 909	12 262	298	112	2	7/1	75
*Hospital of the Good Samaritan*¹*	*Los Angeles*	E R Ware	3 137	9 025	173	77	4	7/1	150
Los Angeles County Hospital*¹	Los Angeles	L T Bullock	19 006	54,508	2,219	702	33	Varies	165
Queen of Angels Hospital*	Los Angeles	K Smith	2 184	293		103	2	1/15	100
St Vincent's Hospital*	Los Angeles	J C Ruddock	2 014		170	67	1	7/1	100
White Memorial Hospital*	Los Angeles	W E MacPherson	1,326	28 969	121	61	3	7/1	120
Highland Alameda County Hospital*¹	Oakland Calif	H Rogers	2 511		250	188	1		135
Permanente Foundation Hospital*¹	Oakland Calif	M F Collen	1 672	42 545	126	61			
Samuel Merritt Hospital	Oakland Calif	F B Taylor	1 141		105	48	2	7/1	110
Collis P and Howard Huntington Memorial Hospital*	Pasadena Calif	R F Webb	1 879		199	117	3	7/1	130
Mercy Hospital*	San Diego Calif	E M Fetter	1,504	701	120	29	2	7/1	100
San Diego County General Hospital*¹	San Diego Calif	J M Rumsey	2 196	15 671	452	210	5	7/1	125
Childrens Hospital*¹	San Francisco	D Atkinson	650	2,005	32	14	1	7/1	50
Franklin Hospital*¹	San Francisco	C D Mote	1 784		184	57	4	7/1	100
French Hospital*¹	San Francisco	D L Wilbur	1 907		173	47	2	7/1	105
Mary's Help Hospital*¹	San Francisco	F Rochex	1 338	8 018	93	32	2	7/1	150
Mount Zion Hospital*¹	San Francisco	A L Cohn and J J Sampson	1 423	6 083	142	95	4		50
St Joseph's Hospital*¹	San Francisco	W W Port	2 183	100	26	16	1	7/1	200
St Luke's Hospital*¹	San Francisco	E L Bruck	2 043	2 624	208	75	2	7/1	100
St Mary's Hospital*¹	San Francisco	J J McGinnis	1,223	3 718	91	30	2	7/1	100
San Francisco Hospital*¹	San Francisco						9	7/1	175
Southern Pacific General Hospital*	San Francisco	R E Allen	3 402		124	57	5	7/1	
Stanford University Hospitals*¹	San Francisco	A L Bloomfield	2,147	26 242	126	74	16	7/1	50
University of California Hospital*¹ ⁴⁴	San Francisco	W J Kerr	1,528	31 323	62	65	9	7/1 8/1	75

Numerical and other references will be found on page 1215

8 INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Santa Clara County Hospital*	San Jose Calif	H Brink	1,438	1,522	152	114	4	7/1	235
Fairmont Hospital of Alameda County[1]	San Leandro Calif	H Rogers	1,414	14,555	292	187	5	7/1	145
Santa Barbara Cottage Hospital*[1]	Santa Barbara, Calif	P A Gray	2,475	750	97	53	8	7/1	100
Harbor General Hospital*[1]	Torrance, Calif	W P Martin	2,201	2,137	422	184	8	7/1	165
University of Colorado Medical Center,									
Colorado General Hospital*	Denver	R S Liggett	968	12,230	163	114	15	7/1	75
Denver General Hospital*[1] [9]	Denver	S S Kauvar	2,968	2,319	512	298	5	7/1	75
Mercy Hospital*[1]	Denver	W Vest	3,860		147	52	2	7/1	40
St Joseph Hospital*	Denver	M Katzman	1,890		127	41	8	7/1	85
Colorado State Hospital[1]	Pueblo, Colo	G R Curless	1,068	2,766	200	118	6	7/1	275
Corwin Hospital*	Pueblo, Colo	R H Finney	1,556	43,003	95		2	7/1	75
Bridgeport Hospital*	Bridgeport Conn	S Mckumm	2,012		249	90	1	7/1	100
Hartford Hospital*[1]	Hartford, Conn	G G Russell	3,897	9,530	357	202	6	7/1	50
New Britain General Hospital*[1]	New Britain, Conn	J C White	1,459		153	70	2	7/1	75
Grace New Haven Community Hospital									
Grace Unit*	New Haven, Conn	T Evans	933	694	62	35	3	7/1	52
New Haven Unit (University Service)*[1]	New Haven Conn	F G Blake	2,182	20,774	319	173	4	7/1	40
Hospital of St Raphael*[1]	New Haven, Conn	T Evans	1,755		223	30	5	7/1	75
Lawrence and Memorial Associated Hospitals*[1]	New London, Conn	A Labensky	1,529		151	16	2	7/1	125
Norwalk Hospital*	Norwalk, Conn	D J Ehrlich	1,520	1,335	147	40	2	7/1	155
Waterbury Hospital*[1]	Waterbury, Conn	O J Bizzozero	4,503	7,685	194	77	6	7/1	160
Delaware Hospital*	Wilmington, Del	L B Flinn	2,108	3,398	159	87	4	7/1	90
Memorial Hospital*[1]	Wilmington Del	L B Flinn	1,118	1,583	109	70	3	7/1, 8/1	110
Wilmington General Hospital*	Wilmington, Del	J R Durham, Jr	1,650	968	91	35	2	7/1	200
Central Dispensary and Emergency Hospital*[1]	Washington D C	J Minor	1,738	3,994	114	52	5	7/1	50
Doctors Hospital*[1]	Washington D C	A McNitt	1,898		113	79	3	7/1	100
Gallinger Municipal Hospital*[1]	Washington, D C	J F Lazkas	3,227	2,659	602	209	14	7/1	100
Garfield Memorial Hospital*[1]	Washington D C		1,689	3,198	19	17			
Georgetown University Hospital*[1] [17]	Washington D C	H Jeghers	2,969	16,565	196	104	23	7/1	25
George Washington University Hospital*[1]	Washington D C	T McP Brown	1,273	6,077	29	17	8	7/1	50
Providence Hospital*	Washington D C	H R Schreiber and W P Argy	1,898	7,441	196	80	4	7/1	75
Duval Medical Center*[1]	Jacksonville, Fla	L Limbaugh	1,344		266	79	3	7/1	125
Riverside Hospital[1]	Jacksonville Fla	T Z Cason	824	6,766	26	12	1	7/1	150
Jackson Memorial Hospital*[1]	Miami Fla	L N McKenzie	3,462	13,285	484	199	12	7/1	60
Orange Memorial Hospital	Orlando Fla								
Crawford W Long Memorial Hospital*[1]	Atlanta, Ga	C P Roberts	2,118	314	169	69	5	7/1	75
Grady Memorial Hospital*[1]	Atlanta Ga	P B Beeson	2,295	54,437	413	269	16	7/1	20
Piedmont Hospital*[1]	Atlanta Ga	J F Paullin	1,119		44	23	3	7/1	75
St Joseph's Infirmary*[1]	Atlanta Ga	M I Lowance	1,201	1,075	73	26	2	7/1	100
University Hospital*[1]	Augusta Ga	V P Sydenstricker	2,073	4,455	241	39	7	7/1	40
Emory University Hospital*[1]	Emory University Ga	D F James	2,106		134	60	5	7/1	50
Alexian Brothers Hospital	Chicago	J B Lusk	1,525		193	74	1	7/1	125
American Hospital*[1]	Chicago	M Mremow	3,490	15,589	142	51	1	1/1, 7/1	50
Augustana Hospital*	Chicago	C Hedberg	2,293	1,954	161	90	4	7/1	50
Cook County Hospital*[1]	Chicago	F F Foley	18,731	22,460	4,161	655	34	1/1 7/1	32
Englewood Hospital*	Chicago	W I Gregg	1,607		150	29		8/1	200
Grant Hospital*[1]	Chicago	A Vanderkloot	1,351	4,355	131	76	1	7/1	100
Henrotin Hospital*[1]	Chicago	J K Hick	986		51	19	1	7/1	100
Hospital of St Anthony de Padua*[1]	Chicago	F J Foran	1,424		145	29	1	7/1	150
Illinois Central Hospital*[1]	Chicago	J H Sloan	2,531	16,439	129	26	2	1/1 10/1	150
Illinois Masonic Hospital*[1]	Chicago	R H Hayes	2,370	7,065	252	139	3	1/1, 7/1	50
Loretto Hospital*	Chicago								
Lutheran Deaconess Home and Hospital*[1]	Chicago	G O Solem	1,297		165	81	1	7/1	100
Mercy Hospital Loyola University Clinics*[1]	Chicago	G O'Brien	2,666	22,997	147	52	6	7/1	25
Michael Reese Hospital*[1]	Chicago	J Golden	2,619	3,006	237	124	8	7/1	25
Mount Sinai Hospital*	Chicago	N I Fox	2,695	15,129	277	99	4	7/1	50
Norwegian American Hospital*[1]	Chicago	M P Gethner	1,551		151	48	1	7/1	150
Passavant Memorial Hospital*[1]	Chicago	W H Nadler	1,756	1,930	71	47	5	7/1	
Presbyterian Hospital*	Chicago	S H Armstrong, Jr	4,045	22,451	102	122	15		25
Provident Hospital*	Chicago	A F Connor	730	13,018	104	23	2	7/1	50
Ravenswood Hospital*[1]	Chicago	M Zeller	1,932	252	129	96	2	7/1 11/1	60
Research and Educational Hospital*[1]	Chicago	R W Keeton	672	25,365	51	40	5	7/1	55
St Anne's Hospital*[1]	Chicago	S G Plice	1,759		198	35	3	7/1	150
St Elizabeth Hospital*	Chicago	A F Luckhardt	2,352		182		1		60
St Joseph Hospital*	Chicago	L F Hines	1,855		154	55	2	7/1	75
St Luke's Hospital*[1]	Chicago	F F Ball	5,726		233	145	12	7/1	25
University of Chicago Clinics*[1]	Chicago	W Adams	2,322	27,184	109	80	16	7/1	25
Wesley Memorial Hospital*[1]	Chicago	P S Rhoads	924		171	89	7	7/1	25
Woodlawn Hospital*[1]	Chicago	W F Gouwens	8 6	539	45	38	1	7/1	150
Evanston Hospital*	Evanston, Ill	J D Snorf	1,960	2,382	120	98	8	7/1	50
St Francis Hospital*[1]	Evanston Ill	M W Shertoll	2,954	3,398	240	127	3	7/1	75
Little Company of Mary Hospital*	Evergreen Park, Ill	W I Hagstrom	1,562		135	25		7/1	100
West Suburban Hospital*	Oak Park, Ill	F Tice	1,401	1,254	204	81	2	7/1	150
St Francis Hospital*[1]	Peoria, Ill	J E McCorvie	2,710	10,765	278	113	2	7/1	100
Clinic Hospital	Bluffton Ind								
Indianapolis General Hospital*[1]	Indianapolis	C T Clark	1,831	24,258	344	154	10	7/1	100
Indiana University Medical Center*[1]	Indianapolis		1,810	5,824	159	113	6	7/1	68.33
Methodist Hospital*[1]	Indianapolis	R A Solomon	2,788	2,150	313	98	4		200
Ball Memorial Hospital*[1]	Muncie Ind	C A Ball	1,087		164	59	2	7/1	100
Iowa Methodist Hospital*[1]	Des Moines	J T Strawn	2,075		171	94	3	7/1	75
University Hospitals*[1]	Iowa City	W Bean	2,768	1,836	183	126	20		
University of Kansas Medical Center*[1]	Kansas City Kan	R Major	1,590	26,005	119	78	5	7/1	100
St Francis Hospital*[1]	Wichita, Kan	J B Fisher	3,097		176	34	1	7/1	125
Wesley Hospital*[1]	Wichita, Kan	G F Corrigan	2,358		124	40	3	7/1	150
Good Samaritan Hospital	Lexington, Ky								
St Joseph Hospital*	Lexington Ky	J W Scott	1,882	700	160	66	2	7/1	100
Louisville General Hospital*[1]	Louisville Ky	J M Kinsman	1,517	24,608	335	93	18	7/1	45
St Joseph Infirmary*	Louisville Ky	S A Overstreet	2,480	1,572	184	49	5	7/1	75
Charity Hospital of Louisiana*[1]	New Orleans		7,712	110,124	949	360	20	7/1	25
Hotel Dieu Sisters' Hospital*[1]	New Orleans	E do S Matthews	2,376		168	67	3	7/1	75
Ochsner Foundation Hospital[1]	New Orleans	T Findley	1,733	24,535	36	27	19	Varies	125
Southern Baptist Hospital*[1]	New Orleans	O W Bethea	3,386		154		2	7/1	150
Touro Infirmary*[1]	New Orleans	W R Wirth	2,061	6,895	185	85	6	7/1	17.50
Shreveport Charity Hospital*	Shreveport, La	M D Hargrove	3,188	21,875	272	142	6	7/1	60
Maine General Hospital*[1]	Portland, Me	E R Blaisdell	1,519	2,037	161	77	5	7/1	50
Baltimore City Hospitals*[1]	Baltimore	C H Boyd	2,890		363	194	18	7/1	15
Church Home and Hospital*[1]	Baltimore	Z R Morgan	606	1,059	71	46	2	7/1	45
Franklin Square Hospital*[1]	Baltimore	R H Silver	1,314	1,353	68	33	4	7/1	85
Hospital for Women*[1]	Baltimore	W Fort	678	3,686	35	17	3	7/1	85

Numerical and other references will be found on page 1215

8 INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst. Res. and Residencies Offered⁴	Beginning of Service (1950)	Beginning Stipend (Month)
Johns Hopkins Hospital*¹	Baltimore	A. M. Harvey	3,260	11,292	265	180	10	7/1	41.66
Maryland General Hospital*¹	Baltimore	J. F. Legge	1,001	515	121	45	2	7/1	50
Mercy Hospital*¹	Baltimore	H. R. Peters	1,342	5,393	146	66	5	7/1	50
Provident Hospital and Free Dispensary*	Baltimore		268	169	85	36	3		100
St. Agnes Hospital*	Baltimore	L. P. Gundry	1,367	267	91	56	3	7/1	75
St. Joseph's Hospital*¹	Baltimore	F. J. Geraghty	1,157	1,663	145	43	3	7/1	50
Sinai Hospital*¹	Baltimore	M. Sherry	1,711	5,077	188	95	8	7/1	25
South Baltimore General Hospital*¹	Baltimore	G. McLean	969	3,002	83	35	2	7/1	90
Union Memorial Hospital*¹	Baltimore	R. G. Hill	1,706	2,115	182	96	6		
University Hospital*¹	Baltimore	T. N. Carey	1,584	8,077	108	68	5	7/1	75
West Baltimore General Hospital*¹	Baltimore	L. A. M. Krause	1,251	484	130	75	6	7/1	60
Beverly Hospital*	Beverly, Mass.	A. F. Parkhurst	1,770	1,093	91	64	1	7/1	100
Beth Israel Hospital*	Boston	H. Blumgart	1,872	15,671	149	95	6	7/1	41.66
Boston City Hospital*¹	Boston		12,133	38,271	1,834	647	51	7/1	90
Carney Hospital*	Boston	N. A. Welch	651	3,234	64	39	2	7/1	50
Faulkner Hospital*¹	Boston	T. A. Halsted	82		63	42	2	7/1	50
Lahey Clinic¹	Boston	F. N. Allen	4,916	96,884	89	45	22	Varies	90
Massachusetts General Hospital*	Boston								
Massachusetts Memorial Hospitals*¹	Boston	C. S. Keefer	1,610	5,641	145	74	1	7/1	50
New England Center Hospital¹ ²	Boston	S. Proger	4,628	6,430	51	32	29	7/1	83⅓
New England Deaconess Hospital	Boston	H. F. Root	2,573	16,797	98	60	5	7/1	150
Peter Bent Brigham Hospital*¹	Boston	G. W. Thorn	2,370	23,611	200	172	16	7/1	
Cambridge City Hospital*	Cambridge, Mass.	J. M. Flynn	1,529	6,904	224	75	3	7/1	75
Mount Auburn Hospital*¹	Cambridge, Mass.	J. H. Townsend	1,069	2,[illegible]	130	63	3	7/1	50
Truesdale Hospital*¹	Fall River, Mass.	W. Mason	783		85	35		1/1 7/1	75
Malden Hospital	Malden, Mass.	F. C. Thorp					3	7/1	50
Cooley Dickinson Hospital¹	Northampton, Mass.	L. N. Durgin	3,185	31	171	48	2	7/1	50
Salem Hospital*¹	Salem, Mass.	S. N. Gardner	1,277	307	184	49	1	7/1	50
Springfield Hospital*¹	Springfield, Mass.	R. L. Barrett	1,787	5,062	174	68	6	7/1	50
Memorial Hospital*	Worcester, Mass.	O. H. Stansfield	1,764		155	62	2	7/1	100
St. Vincent Hospital*	Worcester, Mass.	J. J. Dumphy	2,152		174	64	2	7/1	41.67
Newton-Wellesley Hospital*¹	Newton Lower Falls, Mass.								
Worcester City Hospital*¹	Worcester, Mass.		2,027		351	14	5	7/1	100
St. Joseph's Mercy Hospital*¹	Ann Arbor, Mich.	M. Marshall	1,605		114	52	4	7/1	125
University Hospital*¹	Ann Arbor, Mich.	C. C. Sturgis	4,027	19,490	178	12	42	7/1	139.60
Alexander Blain Hospital	Detroit	H. L. Woodburne	1,169	14,104	29	13	2	7/1	100
Charles Godwin Jennings Hospital*¹	Detroit	F. K. Carmichael	140		1	1	2	7/1	250
City of Detroit Receiving Hospital*¹	Detroit	G. B. Myers	3,101	21,85[illegible]	704	349	21	7/1	159.0
Detroit Memorial Hospital*	Detroit								
Evangelical Deaconess Hospital*	Detroit								
Grace Hospital*¹	Detroit	L. T. Colvin	4,051		356	124	10	7/1	75
Harper Hospital*¹	Detroit	R. C. Moehlig	2,722	18,069	196	57	10	7/1	110
Henry Ford Hospital*¹	Detroit	F. J. Sladen	5,767	123,444	234	96	53	7/1	200
Mt. Carmel Mercy Hospital*¹	Detroit	H. L. Smith	2,693		292	85	8	7/1	150
Providence Hospital*	Detroit	W. P. Chester	1,895		153	65	5		140
Woman's Hospital*¹	Detroit	B. I. Johnstone	6[illegible]2		50	15	1	7/1	165
Wayne County General Hospital and Infirmary*¹	Eloise, Mich.	M. R. McQuiggan	8,827	64,029	532	254	12	7/1	235
Hurley Hospital*¹	Flint, Mich.	M. S. Chambers	3,072		504	91	5	7/1	135
Blodgett Memorial Hospital*¹	Grand Rapids, Mich.	N. L. Avery	1,025		70	41	3	7/1	200
Butterworth Hospital*¹	Grand Rapids, Mich.	L. P. Ralph	1,466	1,039	175	101	3	7/1	100
St. Mary's Hospital*¹	Grand Rapids, Mich.								
Highland Park General Hospital*¹	Highland Park, Mich.	L. T. Crane	986	806	35	17	3	7/1	150
Bronson Methodist Hospital*¹	Kalamazoo, Mich.	J. V. Fopeano	828	914	72	44	3	7/1	150
†Pontiac General Hospital*¹	Pontiac, Mich.	D. Smith	2,158	1,675	155	72	2	7/1	75
Saginaw General Hospital*¹	Saginaw, Mich.	B. M. Bullington	1,847	972	72	40	5	7/1	85
Asbury Hospital*¹	Minneapolis	D. P. Head	1,666		108	44	2	1/1	150
Minneapolis General Hospital*¹	Minneapolis	G. F. Fahr	2,187	12,172	361	182	7	1/1 7/1	125
Northwestern Hospital*¹	Minneapolis	H. J. Ulrich	2,240		111	62	3	7/1	150
St. Barnabas Hospital*¹	Minneapolis	N. Nelson	1,834		139	82			125
University of Minnesota Hospitals*¹	Minneapolis	C. J. Watson	1,064	24,174	135	110	25	7/1	125
Mayo Foundation	Rochester, Minn.	R. M. Wilder					108		62.50
Ancker Hospital*¹	St. Paul	C. B. Drake	2,650	13,741	251	140	9	7/1	91.50
Charles T. Miller Hospital*¹	St. Paul	E. T. Richards and C. N. Hensel	1,577	15,217	92	51	4	7/1	115
St. Joseph's Hospital*¹	St. Paul	H. Richardson	1,631	449	105	46	2	9/1	125
St. Louis County Hospital*	Clayton, Mo.	R. Muether	1,430	16,706	221	120	6	7/1	80
Kansas City General Hospital No. 1*	Kansas City, Mo.	D. A. Williams	2,077	24,841	429	278	12	7/1	50
Menorah Hospital*¹	Kansas City, Mo.	A. M. Ginsberg	1,454		80	34	1	7/1	125
Research Hospital*¹	Kansas City, Mo.	R. C. Davis	2,281	3,940	174	90	3	7/1	100
St. Joseph Hospital*	Kansas City, Mo.	D. A. Williams	3,906	800	171	107	2	7/1	150
St. Luke's Hospital*¹	Kansas City, Mo.	J. Danglade	3,469	3,70[illegible]	145	112	2	7/1	75
St. Mary's Hospital*¹	Kansas City, Mo.	H. M. Parker	1,084		107	56	1	7/1	125
Barnes Hospital*¹	St. Louis	W. B. Wood	4,051	37,861	217	16	26	7/1	25
De Paul Hospital*¹	St. Louis	E. P. Buddy	1,706	1,138	162	55	3	7/1	90
Homer G. Phillips Hospital*¹	St. Louis	R. J. Glaser	2,701	20,538	558	62	10	7/1	95
Jewish Hospital*¹	St. Louis	A. E. Strauss	3,079	8,640	238	90	6	7/1	50
Missouri Baptist Hospital*¹	St. Louis	J. R. Nakada	2,204		200	41	4	7/1	70
Missouri Pacific Hospital	St. Louis	L. B. Harrison							
St. Anthony's Hospital*¹	St. Louis	R. V. Powell	2,0[illegible]1		97	49	1	7/1	150
St. John's Hospital*	St. Louis	C. H. Neilson	2,572	383	200	99	4	7/1	85
St. Louis City Hospital*¹	St. Louis	B. Taussig and W. A. Knight	3,307		559	223	13	7/1	
St. Luke's Hospital*	St. Louis	W. C. Becke	1,221	4,604	126	58	3	7/1	75
St. Mary's Group of Hospitals*¹	St. Louis	R. A. Kinsella	2,842	24,556	220	95	16	7/1	35
Montana Deaconess Hospital	Great Falls, Mont.	F. R. Schemm	1,820	1,507	100	79	3	7/1	200
Creighton Memorial St. Joseph's Hospital*	Omaha	A. Sachs	2,565	10,777	216	69	3	7/1	100
University of Nebraska Hospital*¹ ¹	Omaha	H. C. Lueth	695	3,201	32	27	[illegible]	7/1	75
Mary Hitchcock Memorial Hospital*¹	Hanover, N. H.	S. M. Gundersen	1,975	16,162	65	42	3	7/1	150
Atlantic City Hospital*	Atlantic City, N. J.	D. W. Scanlan	1,089	2,425	76	21	2	7/1	50
Englewood Hospital*¹	Englewood, N. J.	W. W. Schmidt	843	1,190	147	45	1	7/1	100
Hackensack Hospital*¹	Hackensack, N. J.	L. W. Black	1,923	6,085	263		6	7/1	125
Jersey City Hospital*	Jersey City, N. J.	T. J. White	8,111	31,757	1,046	252	11	Varies	35
Monmouth Memorial Hospital*¹	Long Branch, N. J.	F. J. Altschul	1,694	1,083	265	80	2	7/1	150
Mountainside Hospital*¹	Montclair, N. J.	H. M. Ewing	2,289	6,300	219	85	1	7/1	100.74
Burlington County Hospital	Mount Holly, N. J.	P. S. MacNeal	520	430	73	42	1	7/1	100
Fitkin Memorial Hospital*	Neptune, N. J.	L. F. Albright	1,037	1,072	143	31			
Newark Beth Israel Hospital*	Newark, N. J.	H. Goldberg	1,617	7,931	233	79	8	7/1	50

Numerical and other references will be found on page 1215

8 INTERNAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered [8]	Beginning of Service (1950)	Beginning Stipend (Month)
Columbia Hospital*[1]	Columbia, S C	A I Josey	3,068	9,390	270	64	3	7/1	75
Greenville General Hospital*	Greenville, S C	G R. Wilkinson	2 842	11 970	231	51		7/1	100
Baroness Erlanger Hospital*[1]	Chattanooga, Tenn	I L Bibb	3,510	5 782	338	62	3	7/1	75
Knoxville General Hospital*	Knoxville, Tenn	R B Wood	1,261	4,459	172	57	1	7/1	95
John Gaston Hospital*	Memphis, Tenn	C H Sanford	2 396	22,803	450	308	10	7/1	
St Joseph Hospital*[1]	Memphis, Tenn	S Blackwell	2,524		102	26	3	7/1	100
George W Hubbard Hospital of Meharry Medical College*[1]	Nashville Tenn	R M Kark	906	5,069	148	41	3	7/1	100
Nashville General Hospital*[1]	Nashville, Tenn	T F Frist	1 091	9,549	128	51	5	7/1	52.50
St Thomas Hospital*[1]	Nashville, Tenn	W R Cate	1,553		126	60	2	7/1	150
Vanderbilt University Hospital*[1]	Nashville, Tenn	H J Morgan	2,570	19,294	144	70	6	7/1	35 41
Baylor University Hospital*[1]	Dallas, Texas	H M Winans	2 261	2,098	218	71	3	7/1	50
Methodist Hospital*[1]	Dallas, Texas	H Donald	1,426		130	20	4	7/1	75
Parkland Hospital*[1]	Dallas, Texas	T R Harrison	1,033	9,713	186	99	9	7/1	50
†St Paul's Hospital*[1]	Dallas, Texas	T M Kirksey	497	4 631	13	4	4	7/1	100
Harris Hospital*[1]	Fort Worth Texas	W S Barcus	2 344	677	72	23	4	7/1	100
University of Texas Medical Branch Hospitals John Sealey Hospital*[1]	Galveston, Texas	C T Stone	1,780	13,302	227	131	12	7/1, 9/1	50
Hermann Hospital*[1]	Houston Texas	J Greene	2 056	4,739	178	91	6		50
Jefferson Davis Hospital*	Houston, Texas	J A Greene	1,754	44,782	402	101	10	7/1	25
M D Anderson Hospital for Cancer Research	Houston Texas								
Memorial Hospital[1]	Houston, Texas	P V Ledbetter	2 637		159	38			150
Methodist Hospital*[1]	Houston, Texas	H W Cummings	1,155	260	71	38	4	7/1	75
Southern Pacific Hospital	Houston, Texas	M D Levy	699	15 621	14	4	3		125
Santa Rosa Hospital	San Antonio Texas								
Scott and White Hospital*[1]	Temple Texas	V M Longmire	2,059		69	32	21		50
Wichita Falls Clinic Hospital*	Wichita Falls, Texas	O B Kiel	1,762	34 490	25	14	1		300
Thomas D Dee Memorial Hospital*	Ogden, Utah	D M Petersen					3		100
Dr W H Groves Latter Day Saints Hospital*[1]	Salt Lake City	J L. Kimball	3,292		220	78	3	7/1	75
Holy Cross Hospital*	Salt Lake City	F B Bailey	872		59	24	1	7/1	75
Salt Lake County General Hospital*[1]	Salt Lake City	M M Wintrobe	910	12 310	127	85	5	7/1	50
Bishop De Goesbriand Hospital*	Burlington, Vt	C M. Terrien	1 261	1,650	89	43	1	7/1	100
Mary Fletcher Hospital*[1]	Burlington, Vt	I L. Amidon	1,163	762	89	54	4	7/1	110
Alexandria Hospital*[1]	Alexandria Va	W. L Nalls	897		89	34	2	7/1	87 50
University of Virginia Hospital*	Charlottesville, Va	W Parson	2 942	11,802	158	90	8	7/1	
Chesapeake and Ohio Hospital	Clifton Forge, Va	I R Beckwith	3 682	6 624	67	34	4	7/1	60
Riverside Hospital*[1]	Newport News, Va	W A Read	1 225		95	33	1	7/1	150
De Paul Hospital*[1]	Norfolk, Va	W B Martin	3,011	2 096	178	69	4	7/1	100
Norfolk General Hospital*[1]	Norfolk Va	J F Waddill	3 426	6,527	188	52	10	7/1	125
Johnston Willis Hospital[1]	Richmond Va	J M Hutcheson	2,089		115	52	10	7/1	100
Medical College of Virginia Hospital Division*[1]	Richmond Va	W B Porter	2 952	8,416	310	139	15		
Jefferson Hospital*	Roanoke Va	G B Lawson	911	2,828	96	14	1	7/1	50
Lewis Gale Hospital*	Roanoke, Va	C D Nofsinger	1,183	12,793	66	24	3	7/1	150
Doctors Hospital*	Seattle	C I Krantz	2,546		153	61	2	7/1	100
King County Hospital, Unit No 1 (Harborview)*[1]	Seattle	R H. Williams	2 611	10,241	380	151	10	7/1	90
Providence Hospital*[1]	Seattle	R F Foster	2 516	402	162	80	3	7/1	100
Swedish Hospital*[1]	Seattle	I Bannick	1,9 6		114	76	1		100
Virginia Mason Hospital*[1]	Seattle	L. J Palmer	2 542		132	83	6	7/1	75
Deaconess Hospital*[1]	Spokane	O C Olson	1,783		147	70	1		150
St Luke's Hospital*	Spokane								
Northern Permanente Hospital*[1]	Vancouver Wash	F W Seward	323	13 532	18	11			150
Charleston General Hospital*[1]	Charleston, W Va	W A Thornhill	1,849	3 209	90	39	4	7/1	100
Chesapeake and Ohio Hospital*[1]	Huntington W Va	J P Webb	1,891	12 573	85	33	3		115
St Mary's Hospital*[1]	Huntington, W Va	J R Cook	2 868		85	41	1	7/1	100
La Crosse Lutheran Hospital*[1]	La Crosse Wis	I Gundersen	2,520		96	41	1	7/1	150
Madison General Hospital*	Madison, Wis	J K Curtis	1,220		110	49	2	1/1	50
St Mary's Hospital*	Madison, Wis	R N Allin	1,743		118	49	2	7/1	150
State of Wisconsin General Hospital*[1]	Madison Wis	O O Meyer	3 314	8,095	139	100	15	7/1	25
St Joseph's Hospital*	Marshfield Wis	K H Doege	1,617		92	40	3		200
Columbia Hospital*	Milwaukee	F W Mason	1,114		112	66	3	7/1	75
Milwaukee County Hospital*[1]	Milwaukee	B J Peters	6 084	18,276	587	220	23	7/1	175.58
Milwaukee Hospital*	Milwaukee	J Huston	1 554		110	60	3	7/1	
Mount Sinai Hospital*	Milwaukee	R A. Frisch	1,257	5,108	110	28	2	7/1	75
St Joseph's Hospital*	Milwaukee	J K Karr	2 987		252	85	2	7/1	75
Queens Hospital*[1]	Honolulu, Hawaii	H Arnold, Sr	2 400	10 235	191	120	8	7/1	75

9 MALIGNANT DISEASES

The following services are approved by the Council on Medical Education and Hospitals 116 Hospitals, 20 Assistant Residencies and Residencies 116

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered [8]	Beginning of Service (1950)	Beginning Stipend (Month)
Veterans Administration									
Veterans Admin Hospital	Hines, Ill	T H. Clarke	1,902		242	130			n
Nonfederal									
Collis P and Howard Huntington Memorial Hospital*	Pasadena Calif	G S Sharp	614		80	52	1	7/1	130
Grady Memorial Hospital*[1]	Atlanta, Ga	J E Scarborough	220	17,403	4	4	2	7/1	20
Michael Reese Hospital*[1]	Chicago	E M Uhlmann	700	22,098	105	60	4		50
Massachusetts General Hospital*	Boston								
Pondville Hospital	Walpole, Mass		934	9,560	55	43	8	7/1	430
Westfield State Sanatorium[1]	Westfield, Mass	H Young	431	8,350	37	20	3	7/1	430
University of Minnesota Hospitals*[1]	Minneapolis	O H Wangensteen	336	4,920	8	6	4		125
Ellis Fischel State Cancer Hospital[1]	Columbia, Mo	J J Modlin	1,153	5,011	41	33	11	7/1	
Barnard Free Skin and Cancer Hospital	St Louis	C F Sherwin and A N Arneson	1,038	25,823	10	7	3	7/1	110
Jersey City Hospital*[1]	Jersey City, N J	J B Falson	311	2,902	41	11	2		35
Brooklyn Cancer Institute	Brooklyn	W E Howes	700	10,406	198	42	4	7/1	50

Numerical and other references will be found on page 1215

9 MALIGNANT DISEASES—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Roswell Park Memorial Institute[1]	Buffalo	G L. Sheehan	2,140	27 090	69	84	7	7/1	
Meadowbrook Hospital*[1]	Hempstead N Y	J W McChesney	474	4 578	120	51	2	7/1	134
Memorial Hospital[1]	New York City	A. O Whipple	6 193	83 414	221	64	44	1/1 7/1	15
Montefiore Hospital for Chronic Diseases*[1]	New York City	D Laszlo	794		389	109	6	1/1 7/1	50
New York City Cancer Institute Hospital[1]	New York City	B H. Golden	1 023	5 949	655	76	8	Varies	130
American Oncologic Hospital[1]	Philadelphia	G M. Dorrance	1 731	10 509	32	19	5	7/1	150
Jeanes Hospital[1]	Philadelphia	A. E Bothe	1,470	8 810	65	20	2	7/1	100
M D Anderson Hospital for Cancer Research	Houston Texas								

10 NEUROLOGICAL SURGERY

The following services are approved by the Council and the American Board of Neurological Surgery
Hospitals 79 Assistant Residencies and Residencies 181

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Navy										
U S Naval Hospital*	Long Beach Calif	A L Schultz	502	403	14	14	2		1	n
Veterans Administration										
Veterans Admin. Hospital*[1]	Los Angeles	C W Rand					3	7/1	1	n
Veterans Admin Hospital	San Francisco	O W Jones and F W Lusignan	357	1 141	11	11	3	7/1	3	n
Veterans Admin Hospital*[1]	Van Nuys Calif	J D French	318	678	11	9	1	1/1 7/1	3	n
Veterans Admin Hospital	Chamblee Ga	E F Fincher	424	30	17	15	3	7/1	1	n
Veterans Admin Hospital	Hines Ill	L. Davis	845		35	21	6	1/1 7/1	3	n
Veterans Admin. Center[1]	Wadsworth Kan	H S Cowley	355		6	6	1	1/1 7/1	2	n
Veterans Admin Hospital[1]	Louisville, Ky	E E Grantham			16	16	1	7/1	1	n
Veterans Admin Hospital[1]	Minneapolis	L A French	261	26	12	10	2	7/1	3	n
Veterans Admin Hospital[1]	New York City	J E Scarff	454	759	30	19	4	1/1 7/1	3	n
Veterans Admin Hospital[1]	Cleveland	C S Beck	358	157	22	16	1	7/1	1	n
Veterans Admin Hospital	Memphis Tenn		296		26	19	3	7/1	1	n
Veterans Admin Center[4]	White River Jct Vt	H L Heyl	300		4	4	1	8/1	2	n
Veterans Admin Hospital[1]	Richmond Va	J L Ulmer	863		18	13	4	7/1	1	n
Nonfederal										
Jefferson Hillman Hospital*[1]	Birmingham Ala	G Galbraith	603	555	69	28	1	7/1	3	50
Los Angeles County Hospital*[1]	Los Angeles	C W Rand	2 430	1 670	203	32	4	Varies	1	165
White Memorial Hospital*	Los Angeles	P J Vogel	394		21	17	1	7/1	2	120
Franklin Hospital*[1]	San Francisco	H A. Brown	766		23	15	2	7/1	1	100
University of California Hospital*[1]	San Francisco	H C Naffziger	603	1 385	24	19	3	9/1	3	75
Hartford Hospital[1]*	*Hartford Conn*	*J C Fox Jr*	962	550	48	37	2	7/1	3	50
St Francis Hospital*	Hartford Conn	R. C Buckley	844	1 102	31	19	1	7/1	1	100
Grace-New Haven Community Hospital New Haven Unit (University Service)*[1]	New Haven Conn	W German	506	2 084	49	38	2	7/1	3	40
St Vincent's Hospital*	Jacksonville Fla	J G Lyerly	267		14	7	1	7/1	1	100
Emory University Hospital*	Emory University Ga	E. F Fincher	500		23	10	1	7/1	2	50
Augustana Hospital*	Chicago	W A. Gustafson	225		10	10	1	7/1	1	50
Chicago Memorial Hospital*	Chicago	P C Bucy	538	1 100	28	23	2	7/1	2	200
Cook County Hospital*[1]	Chicago	H C Voris	2 241	235	174	17	1	1/1 7/1	1	32
Illinois Neuropsychiatric Institute[1]	Chicago	E Oldberg	672	7 778	42	36	5	7/1	3	55
Mercy Hospital Loyola University Clinics*[1]	Chicago	H C Voris	234	174	22	11		7/1	1	25
Presbyterian Hospital*	Chicago	A Verbrugghen	181	436	11	9	1		2	25
St. Luke's Hospital*[1]	Chicago	E Oldberg	282		25	10	2	7/1	3	25
University of Chicago Clinics*	Chicago	T B Rasmussen	220	1 074	12	10	2	7/1	2	25
Wesley Memorial Hospital*[1]	Chicago	T H Stone	342		13	6	1	7/1	3	25
University of Kansas Medical Center*	Kansas City Kan	F R Teachenor	220		15	12	1	7/1	3	100
University of Louisville Hospitals*[4]	Louisville Ky	R G Spurling	174	1 431	39	10		7/1	2	
Ochsner Foundation Hospital[1]	New Orleans	D H Echols	301	1 539	19	8	2	10/1	2	125
Maine General Hospital*[1]	Portland Maine	G L Maltby	565	627	51	34	1	7/1	1	50
Johns Hopkins Hospital*[1]	Baltimore	A E Walker	640	877	34	29	5	7/1	3	41 66
†University Hospital*[1]	Baltimore	C Bagley Jr	536	711	58	30	3	7/1	3	75
Boston City Hospital*[1]	Boston	D Munro	331		71	17	2	7/1	2	110
Lahey Clinic	Boston	G Horrax	1 200	2,998	40	28	10	1/1, 7/1	2	125
Massachusetts General Hospital*	Boston								3	
New England Center Hospital	Boston	W H Sweet	80	20			1	7/1	1	83.33
University Hospital*[1]	Ann Arbor Mich	E A Kahn	771	2 002	79	58	2	7/1	3	139 60
Grace Hospital*[1]	Detroit	E S Gurdjian	902		50	24	1	7/1	1	75
Henry Ford Hospital*[1]	Detroit	A S Crawford	379	2 206	38	16	3	7/1	2	200
University of Minnesota Hospitals*[1]	Minneapolis	W T Peyton	324	587	16	12	4	7/1	3	125
Mayo Foundation	Rochester Minn	W McK Craig					15		3	92.50
Barnes Hospital*	St Louis	H. Schwartz	570		32	21	1	7/1	3	25
University of Nebraska Hospital*[1]	Omaha	H H Davis	58		16	16	1	7/1	3	75
Albany Hospital*[1]	Albany N Y	E H Campbell	692	120	41	29	3	7/1	3	41 67
Jewish Hospital*	Brooklyn	I Tarlov and J Siris	252	310	40	17	1	7/1	2	55
Kings County Hospital*[1]	Brooklyn	E J Browder	3 542	1 985	318	176	3	7/1	3	80
Buffalo General Hospital*	Buffalo	W B Hamby	463	102	41	30	2	7/1	3	25
Millard Fillmore Hospital*	Buffalo	W F Beswick	154		15	3			1	
Mount Sinai Hospital*[1]	New York City	I Cohen	413	488	52	25	2	7/1	1	50
Presbyterian Hospital*[1] [61]	New York City	J L Pool	640	802	59		7	7/1	3	41 66
St Vincent's Hospital[7]	New York City	C G de Gutierrez Mahoney							2	
Strong Memorial Rochester Municipal Hospitals*[1]	Rochester N Y	W P Van Wagenen	378	189			1	7/1	3	41 66
Syracuse Memorial Hospital	Syracuse N Y	A D Ecker	222	94	20	12	1	7/1	1	125
Duke Hospital*[1]	Durham N C	B Woodhall	894	1 467	48	31	4	7/1	3	83.33
Christ Hospital*	Cincinnati	F H. Mayfield	323		12	7	1	7/1	1	110
Cincinnati General Hospital*[1]	Cincinnati	J P Evans	437	768	61	37	2	7/1		
Cleveland Clinic Hospital[1]	Cleveland	W J Gardner	813	7 322	66	39	6	7/1	2	135
White Cross Hospital*	Columbus Ohio	H E Lefever	862		57	36	2	7/1	2	100

Numerical and other references will be found on page 1215

10 NEUROLOGICAL SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
†St Vincent's Hospital*[1]	Toledo, Ohio	M T Schnitker	363	65	26	19	1	7/1	1	
University Hospitals*	Oklahoma City	H Wilkins	168	642	17	10	1	7/1	2	35
†University of Oregon Medical School Hospitals and Clinics*[1, 7]	Portland, Ore	J Raaf	15		1	1	3	7/1	3	75
†Graduate Hospital of the University of Pennsylvania*	Philadelphia	R Groff	490	659	35	29	2	7/1	2	
Hospital of the University of Pennsylvania*[1]	Philadelphia	F C Grant	597	363	63	61	3	Varies	3	50
Jefferson Medical College Hospital*	Philadelphia	T A Shallow	390	474	38	15	2		2	
Temple University Hospital*[1]	Philadelphia	M Scott	681	1,383	45	17	2	7/1	2	50
Mercy Hospital*[1]	Pittsburgh	F H Bragdon	400	148	26	8	2	7/1	2	100
Western Pennsylvania Hospital*[1, 30]	Pittsburgh						1		2	100
Baptist Memorial Hospital*	Memphis, Tenn	R F Semmes	1,054	247	41	24	2	7/1	2	75
University of Texas Medical Branch Hospitals	Galveston, Texas	S R Snodgrass	241	221	26	15		2/1	2	75
John Sealy Hospital*[1]										
Galveston State Psychopathic Hospital										
Methodist Hospital*[1]	Houston, Texas	J Greenwood	446		7	6	1	7/1	2	75
University of Virginia Hospital*[1]	Charlottesville, Va	W G Crutchfield	734	404	50	24	3	7/1	3	62
Medical College of Virginia Hospital Division*[1]	Richmond, Va	C C Coleman	968	514	72	39	3		3	

11 NEUROLOGY

The following services are approved by the Council and the American Board of Psychiatry and Neurology
Hospitals 69 Assistant Residencies and Residencies 200

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital*	San Francisco	S C Sitter	520	465	1	1	1	1/1, 7/1	3	n
†Fitzsimmons General Hospital*	Denver	D B Peterson	294	67	3	3	1	1/1, 7/1	2	n
Army Medical Center*[15]	Washington, D C	E R Inwood	1,702	268	2	1	1	7/1	1	n
United States Navy										
U S Naval Hospital*[1]	Bethesda, Md	W H Boswell	1 525	350	18	12		Varies	1	n
U S Naval Hospital*	Philadelphia	E L Caveny	3,521	5,202	16	4	6	1/1, 7/1	1	n
Federal Security Agency										
†Freedmen's Hospital*[1]	Washington, D C	E Y Williams	190	1,236	11	5	1	7/1	2	n
Veterans Administration										
Veterans Admin Hospital*[1]	Los Angeles				10	7	1	1/1, 7/1	2	n
†Veterans Admin Hospital*[1]	Van Nuys, Calif	H H De Jong	162		29	26	2	1/1, 7/1	3	n
Veterans Admin Hospital	Hines, Ill	L J Pollock	700		52	29	18	1/1, 7/1	3	n
Veterans Admin Hospital[1]	Topeka, Kans	L Bernstein	470		11	8	2	7/1	2	n
Veterans Admin Hospital[1, 21]	Louisville, Ky	E. Roseman	300	1,034	8	8	2		2	n
Veterans Admin Hospital[1]	Framingham, Mass	F A Quadfasel	639		10	8	2	7/1	3	n
Veterans Admin Hospital[1]	Minneapolis	R Zarling	1,302	819	39	33	10	7/1	3	n
Veterans Admin Hospital[1]	New York City	H G Wolff	967	750	36	22	8	1/1 7/1	3	n
Veterans Admin Hospital[1]	Cleveland	L Halle	361	252	15	10	1	7/1	2	n
Veterans Admin Hospital[1]	Coatesville Pa	C Rupp					5	7/1	3	n
Veterans Admin Hospital	Richmond, Va	B Nagler	176		9	5	5	7/1	1	n
Nonfederal										
Los Angeles County Hospital*[1]	Los Angeles	S P Ingham	2 814	3 351	604	201	3	Varies	3	165
White Memorial Hospital*	Los Angeles	C B Courville	426	2,248	6	4	3		3	
University of California Hospital*[1]	San Francisco	R B Aird	314	2,034	5	5	3	7/1	2	75
Gallinger Municipal Hospital*[1]	Washington, D C	W Freeman	592		64	19	2	7/1	2	100
George Washington University Hospital*[1]	Washington, D C	W Freeman	95	637	4	2	1	7/1	2	50
†Cook County Hospital*[1]	Chicago	J A Luhan	366	2,368	48	14	1	1/1, 7/1	1	32
Illinois Neuropsychiatric Institute*[1]	Chicago	F Oldberg						7/1	3	55
St Luke's Hospital*[1]	Chicago	R P Mackay	638		7	4	1	7/1	2	25
University of Chicago Clinics*	Chicago	R B Richter	149	2,301	6	6	1	7/1	2	150
Indianapolis General Hospital*[1]	Indianapolis	A Ross	39		7	5	1	7/1	1	80
Methodist Hospital*[1]	Indianapolis	P B Reed	708		220	14	2	7/1	1	200
University Hospitals*[1, 17]	Iowa City	A L Sahs	1,197	681	30	17	3		3	50
Louisville General Hospital*[1]	Louisville, Ky	F Roseman							1	
Charity Hospital of Louisiana*[1]	New Orleans		779	10,102	29	7	3	7/1	3	25
Baltimore City Hospitals*[1]	Baltimore	J W Magladery					1	7/1	3	15
Boston City Hospital*[1]	Boston	D E Denny Brown	184	4,377	14	4	5	7/1	3	90
Massachusetts General Hospital*	Boston								3	
†New England Center Hospital[1]	Boston	R D Adams	1,000	400			1	7/1	2	83 33
University Hospital*[1]	Ann Arbor, Mich	C D Camp	708	4,556	26	16	5	7/1	3	139 60
Henry Ford Hospital*[1, 6]	Detroit	G O Grain					2	7/1	1	200
University of Minnesota Hospitals*[1]	Minneapolis	A B Baker	695	2,414	34	28	3	7/1	3	125
Mayo Foundation	Rochester, Minn	H W Woltman					15		3	92 50
Barnes Hospital*	St Louis	Drs Wood and Gildea	385		4	4	1	7/1	2	25
Homer G Phillips Hospital*[1]	St Louis	J O'Leary	1,027	2,093	78	14	3	7/1	3	95
St Louis City Hospital*[1]	St Louis	J O'Leary and E Sassin	667	1,414	207	77	1	7/1	2	
Albany Hospital*[1, 6]	Albany, N Y								1	
Brooklyn Hospital*[1]	Brooklyn	J Browder	272		29	15	2	7/1	2	25
Jewish Sanitarium and Hospital for Chronic Diseases[1]	Brooklyn	A M Rabiner	348		43	11	3		2	150
Kings County Hospital*[1]	Brooklyn	A M Rabiner	1 879	2 586	603	70	4	7/1	3	80
Buffalo General Hospital*	Buffalo	J H Talbott	207	638	7	4		7/1	2	25
Bellevue Hospital, Div II—Cornell University*[1]	New York City	G Schumacher	472	4,550			4	7/1	3	80
Bellevue Hospital, Div III—New York University*[1, 5]	New York City								3	
Fordham Hospital*[1]	New York City	J H Friedman	1,210	318	102	13	1	1/1	1	80
Goldwater Memorial Hospital*[1]	New York City	P Maybarduk and D Dattner	762	391	65	16	5	7/1	1	70

Numerical and other references will be found on page 1215

11 NEUROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Lenox Hill Hospital*[1]	New York City	T K Davis	260	782	12	3	1	Varies	2	50
Metropolitan Hospital*[1]	New York City	S P Jewett	101	1 277	8		1	7/1	2	130
Montefiore Hospital for Chronic Diseases*[1]	New York City	T J C Von Storch	488		51	31	4	1/1 7/1	3	50
Morrisania City Hospital*[1]	New York City	N Savitsky		1 002			2	7/1	2	80
Mount Sinai Hospital*[1]	New York City	I S Wechsler	549	2 549	39	20	5	7/1	3	50
New York City Hospital*[1]	New York City	L V Lyons	643	1 072	100	80	2	7/1	2	80
Presbyterian Hospital*[1] •[1]	New York City	H H Merritt	2 930	13 708	60		13	7/1	3	41 66
†St. Vincent's Hospital	New York City	C G De Gutierrez Mahoney	634	1,989	48	14	3	7/1	1	50
Duke Hospital*	Durham N C	E Kunkle	186	663	1	1	2	7/1	3	83.33
Cincinnati General Hospital*[1]	Cincinnati	C Aring	394	1 027	130	57	1	7/1	3	
†Cleveland Clinic Hospital	Cleveland	L. J Karnosh	131	9 409	3		4	7/1	1	135
†*Graduate Hospital of the University* of Pennsylvania*	Philadelphia	J C Yaskin	637	1 070	14	8	3	7/1	1	
Hospital of the University of Pennsylvania*[1]	Philadelphia	G D Gammon	1 043	3 404	17	13	4	Varies	3	50
Jefferson Medical College Hospital*	Philadelphia	B J Alpers	628	21 042	28	13	3		3	
Philadelphia General Hospital*[1]	Philadelphia	G Wilson	1 035	11 083	501	334	6	7/1	3	75
Temple University Hospital*[1]	Philadelphia	S Gilpin	229		32	18		7/1	3	50
†St Francis Hospital*[1] •	Pittsburgh								1	
University of Texas Medical Branch Hospitals Galveston State Psychopathic Hospital •	Galveston Texas								1	

12 OBSTETRICS AND GYNECOLOGY

The following services are approved by the Council and the American Board of Obstetrics and Gynecology
Hospitals 374 Assistant Residencies and Residencies 1 522

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army									
Letterman General Hospital*	San Francisco	E N Akers	OBG	1 743	13 331	0	1/1 7/1	3	n
Fitzsimmons General Hospital*	Denver	J E Sams	OBG	2 731	12,803	0	1/1 7/1	2	n
Army Medical Center*[15]	Washington D C	H L Riva	OBG	1 9 0	53 705	8	7/1	3	n
Brooke Army Medical Center*[14]	San Antonio Texas	J W Simpson	OBG	3,506	27 215	9	7/1	3	n
Tripler General Hospital*	Honolulu Hawaii		OBG	1 967	12 442		7/1	2	n
United States Navy									
U S Naval Hospital*	Long Beach Calif	R E Crowder	OBG	3 112	27,260	8	Varies	3	n
U S Naval Hospital*	Oakland Calif	M Rubin	OBG	3 110	17 6.6	5		2	n
U S Naval Hospital*	San Diego Calif	H. H Hill	OBG	3 423	30 260	4	Varies	2	n
U S Naval Hospital*	Great Lakes Ill	L M. Harris	OBG	1 730	11 719	4	Varies	3	n
U S Naval Hospital*[1]	Bethesda Md	P Peterson	OBG	2 391	29 548	6		3	n
U S Naval Hospital*	Chelsea Mass	F B Smith	OBG	1,557	8 878	4	Varies	2	n
U S Naval Hospital*	St Albans N Y	F B Hopper	OBG	1 719	12,731	6	Varies	2	n
U S Naval Hospital*	Philadelphia	E P Madden	OBG	1 403	12 443	5	1/1 7/1	3	n
U S Naval Hospital*	Portsmouth Va	L J Dorgan	OBG	3 003	31 008	5	Varies	2	n
Federal Security Agency									
Freedmen's Hospital*[1]	Washington D C	J W Ross	OBG	3,533	9 008	3	7/1	3	n
Nonfederal									
Carraway Methodist Hospital*	Birmingham Ala	T M Boulware	OB	1 805	8 097	1	7/1	1	150
Jefferson Hillman Hospital*[1]	Birmingham Ala	N Jones and J R Garber	OBG	5 044	14,895	8	7/1	3	50
Employees' Hospital of Tennessee Coal Iron and Railroad Company*	Fairfield Ala	O T West	OB	2 109	14 007	4	7/1	2	225
St Vincent Infirmary	Little Rock Ark	C R Henry	OBG	2 772		2	7/1	3	75
University Hospital*[1]	Little Rock Ark	W E Brown	OBG	2,939	10 703	10	7/1	3	75
Herrick Memorial Hospital*[1]	Berkeley Calif	T R Hoffmann	OBG	2 414	2,124	1	7/1	1	50
San Joaquin General Hospital*[1]	French Camp Calif	D G Harrington	OBG	1 800	9 462	2	1/1 7/1	2	220
California Hospital*	Los Angeles	G W Hewitt	OB	3 414	731	4	7/1	2	100
Los Angeles County Hospital*[1]	Los Angeles	B J Hanley	OBG	12,858	14,883	11	Varies	3	165
Queen of Angels Hospital*[1]	Los Angeles	A M McCarthy	OBG	7 450	2 420	3	1/1 7/1	3	100
White Memorial Hospital*[1]	Los Angeles	R J Thompson	OBG	2 548	20,242	4	7/1	3	120
Highland Alameda County Hospital*[1]	Oakland Calif	T F Bell	OBG	2,827		3		3	135
Permanente Foundation Hospital*	Oakland Calif	R W King	OBG	3 130	22 434	4		2	125
Samuel Merritt Hospital	Oakland Calif	C C Hall	OBG	3 128		2	7/1	1	100
Collis P and Howard Huntington Memorial Hospital	Pasadena Calif	E I Sorenson	OB	2,019		1	7/1	1	130
Mercy Hospital*	San Diego Calif	C R. Kennedy	OBG	5 094	374	3	7/1	2	100
San Diego County General Hospital*[1]	San Diego Calif	W B McGee	OBG	1 371	5 157	2	7/1	1	125
Childrens Hospital*[1]	San Francisco	H A Stephenson	OBG	3 011	3,512	3	7/1	3	50
Mary's Help Hospital*[1]	San Francisco	C L Cooley	OBG	2 491	4,275	2	7/1	1	150
St Joseph's Hospital*[1]	San Francisco	H Von Geldern	OBG	2,278	132	2	7/1	1	200
St Mary's Hospital*	San Francisco	P H Arnot	OB	2,340	1 131	3	7/1	1	100
San Francisco Hospital*[1]	San Francisco		OBG			4	7/1	3	175
Stanford University Hospitals*[1]	San Francisco	C E McLennan	OBG	3 415	15,948	7	7/1	3	50
University of California Hospital*[1]	San Francisco	H F Traut	OBG	2 020	15 030	5	7/1	3	75
Santa Clara County Hospital*	San Jose Calif	A Shufelt	OBG	2 231	6 901	3	7/1	2	235
St John's Hospital*	Santa Monica, Calif	B Watson	OBG	2 931		2	9/1	2	150
Los Angeles Harbor General Hospital*[1]	Torrance Calif	M Weiner	OBG	1,323	2,576	5	7/1	1	165
St Joseph's Hospital*	Denver	L Mason	OBG	3 299		2	7/1	2	85
University of Colorado Medical Center									
Colorado General Hospital*	Denver	E S Taylor	OBG	1,333	8,397	8	7/1	3	75
Denver General Hospital*[1] •	Denver	E S Taylor	OBG	1 441	4,550	2	7/1	3	75
Bridgeport Hospital*	Bridgeport Conn	C Griswold	OB	2 671	1,730	2	7/1	1	100
St Vincent's Hospital*	Bridgeport, Conn	J H Howard	OB	28 422	1 232	1	7/1	1	
Hartford Hospital*[1]	Hartford Conn	R W Storrs	OBG	8 468	6 458	8	7/1	3	50
New Britain General Hospital*[1]	New Britain Conn	D A Bristoll	OBG	2 794		1	7/1	1	75
Grace-New Haven Community Hospital									
Grace Unit*	New Haven Conn	H Perrins	OBG	1 911	1 061	8	7/1	3	52
New Haven Unit (University Service)*[1]	New Haven Conn	H Thoms	OBG	2,852	8,938	4	7/1	3	40

Numerical and other references will be found on page 1215

12 OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Hospital of St Raphael*[1]	New Haven, Conn	C Johnson	OBG	3,363		5	7/1	3	75
Lawrence and Memorial Associated Hospitals*[1]	New London, Conn	E H Blank	OBG	2,665		2	7/1	1	125
Norwalk Hospital*	Norwalk, Conn	V G Wallace	OB	1,653	511	1	7/1	1	155
Columbia Hospital for Women and Lying In Asylum[1]	Washington, D C	J D Wynkoop and P Haynes	OBG	6,522	14,736	8	7/1	3	
Doctors Hospital*[1]	Washington, D C	J D Wynkoop	OBG	3,340		2	7/1	2	100
Gallinger Municipal Hospital*[1]	Washington, D C	R H Barter	OBG	6,488	7,205	6	7/1	3	100
Garfield Memorial Hospital*[1]	Washington D C		OBG	3,905	5,807			3	
Georgetown University Hospital*[1]	Washington, D C	A A Marchetti	OBG	3,061	5,604	8	7/1	3	25
George Washington University Hospital*[1][58]	Washington, D C	J L Parks	OBG	4,576	1,302	4	7/1	3	50
Providence Hospital*	Washington, D C	G J Ellis	OBG	4,224	3,506	4	7/1	2	75
Sibley Memorial Hospital*[1]	Washington, D C	J Kotz	OB	3,619	200	5	7/1	2	75
Brewster Hospital*[1]	Jacksonville, Fla	M Suter	OBG	1,300	1,938	2	7/1	1	125
Duval Medical Center*	Jacksonville, Fla	S R Norris	OB	554			7/1	1	125
		F Richards	Gyn	1,800			7/1	1	125
St Lukes Hospital*	Jacksonville Fla	S R. Norris	OB	2,014	2,906	2	7/1	1	125
Jackson Memorial Hospital*[1]	Miami, Fla	H L Pearson	OBG	4,725	3,144	2	7/1	2	60
Orange Memorial Hospital*[1]	Orlando, Fla		OB					1	
			GYN					1	
Crawford W Long Memorial Hospital*[1]	Atlanta, Ga	J B Varner	OBG	7,835	3,351	12	7/1	3	75
Grady Memorial Hospital*[1]	Atlanta, Ga	J B Cross	OBG	7,102	46,123	12	7/1	3	20
St Joseph's Infirmary*[1]	Atlanta, Ga	H Boyd	OB	1,502	3,314	2	7/1	1	100
University Hospital*[1]	Augusta, Ga	R Torpin	OBG	4,131	7,031	7	7/1	3	40
Augustana Hospital*	Chicago	W H Browne and N M Percy	OBG	2,410	3,270	2	7/1	1	50
Chicago Maternity Center[1]	Chicago	B E Tucker and H B Benaron	OB	4,873	11,232	6	1/1	1	50
Cook County Hospital*[1]	Chicago	F H Falls and J E Fitzgerald	OBG	13,538	13 581	16	1/1, 7/1	3	82
Englewood Hospital*	Chicago	C D Krause	OB	1,087			3/1	1	200
Frank Cuneo Hospital	Chicago	H O Maryan	OBG	2,800	164	1	7/1	1	150
Grant Hospital*[1]	Chicago	V C Freda	OBG	2,483	2,646	2	7/1	3	100
Henrotin Hospital*	Chicago	E L Cornell	OB	836	500	1	7/1	1	100
Hospital of St Anthony De Padua*[1]	Chicago	F J Fara	OB	1,589		2	7/1	1	150
Illinois Masonic Hospital*[1]	Chicago	F J Roos	OBG	1,813	870	2	1/1, 7/1	1	50
Lewis Memorial Maternity Hospital [1][67]	Chicago	H E Schmitz	OBG	2,706	16,120	12	1/1, 7/1	3	50
Loretto Hospital*	Chicago	G Z Wickster	OB	1,300		1	7/1	1	200
Lutheran Deaconess Home and Hospital*[1]	Chicago	G Rosene	OB	1,522		1	7/1	1	100
Mercy Hospital Loyola University Clinics*[1]	Chicago	H E Schmitz	OBG	2,155	8 468	2	7/1	3	25
Michael Reese Hospital*[1]	Chicago	R A Reis	OBG	4,484	4,173	6	1/1, 7/1	3	25
Mount Sinai Hospital*[1]	Chicago	A H Klawans	OBG	2,820	2,840	2	7/1	2	50
Passavant Memorial Hospital*[1]	Chicago	J I Brewer	OBG	2,911	885	2	1/1	3	
Presbyterian Hospital*	Chicago	F D Allen	OBG	3,500	2,308	9		3	25
Provident Hospital*	Chicago	T C Raines and P Santos	OBG	2,647	5,262	4	7/1	3	50
Ravenswood Hospital*[1]	Chicago	F W Rohr	OBG	2,525	1,200	3	7/1	2	60
Research and Educational Hospital*[1]	Chicago	F H Falls	OB	1,251	13,824	5	7/1	3	55
St Anne's Hospital*[1]	Chicago	R J Hawkins	OB	3,616		3	7/1	3	150
St Elizabeth Hospital*	Chicago	J R Lavieri	OBG	3,088		4		1	60
St Joseph Hospital*	Chicago	C Geiger	OBG	2,205	2,370	3	7/1	1	75
St Lukes Hospital*[1]	Chicago	E A Edwards	OBG	2,396		5	7/1	3	25
Swedish Covenant Hospital*[1]	Chicago	G L Rosene	OB	2,136		1	7/1	1	150
University of Chicago Clinics*[1]	Chicago	W J Dieckmann	OBG	6,050	38,091	25	7/1	3	25
Wesley Memorial Hospital*[1]	Chicago	G H Gardner	OBG	3,014		3	7/1	3	25
Women and Childrens Hospital*[1]	Chicago	L Nadelhoffer	OB	1,182	993	2	7/1	2	75
Evanston Hospital*	Evanston Ill		OBG	2,464	1,863	2	7/1	3	50
St Francis Hospital*	Evanston Ill	J M Bailey	OBG	3,726	128	3	7/1	3	75
Little Company of Mary Hospital*[1]	Evergreen Park, Ill	P E Lawler	OB	3,540		3	7/1	2	100
West Suburban Hospital*	Oak Park, Ill	F H Falls	OBG	5,061	338	3	7/1	2	150
St Francis Hospital*[1]	Peoria, Ill	W A Michael	OBG	3,818	855	2	7/1	2	100
Indianapolis General Hospital*[1]	Indianapolis	J W Hoffman and F Hudson	OBG	2,564	13,750	3	7/1	3	80
Indiana University Medical Center*[1]	Indianapolis		OB	2,088	5,003	4	7/1	3	68.83
Methodist Hospital*[1]	Indianapolis	L J Clark	OB	5,117		8	7/1	2	200
St Vincent's Hospital*[1]	Indianapolis	C Habich and F J Hudson	OBG†	4,443	515	3	7/1	2	200
St Elizabeth Hospital*	La Fayette, Ind	F W Peyton	OBG†	2,459	97	3	7/1	2	100
University Hospitals*[1]	Iowa City	E D Plass	OBG	2,403	3,886	9		3	
University of Kansas Medical Center*[1]	Kansas City, Kan	L A Calkins	OBG	1,737	11,327	5	7/1	3	100
St Francis Hospital*[1]	Wichita Kan	R A West	OBG	3,783		3	7/1	1	125
Wesley Hospital*[1]	Wichita, Kan	M W Hall	OBG	3,507		3	7/1	1	150
St Joseph Hospital*	Lexington, Ky	A B Barrett	OBG	1,947	125	1	7/1	1	100
Louisville General Hospital*[1]	Louisville, Ky	W O Johnson and S H Starr	OBG	2,690	15,860	9	7/1	3	45
St Joseph Infirmary*	Louisville, Ky	J D Gordinier	OBG	3,654	1,451	6	7/1	2	75
Charity Hospital of Louisiana*[1]	New Orleans		OBG	17,086	95,785	39	7/1	3	25
Hotel Dieu Sisters' Hospital*[1]	New Orleans	E W Nelson	OBG	3,915		3	7/1	1	75
Ochsner Foundation Hospital[1]	New Orleans	C Tyrone	OBG	510	15,869	6	1/1, 7/1	3	125
Southern Baptist Hospital*[1]	New Orleans	W D Beacham	OBG	4,883		8	7/1	1	150
Touro Infirmary	New Orleans	W E Levy and C Tyrone	OBG	4,140	7,442	6	7/1	3	17 50
Shreveport Charity Hospital*	Shreveport, La	C R Mays	OBG	4,457		5	7/1	2	60
Baltimore City Hospitals*[1]	Baltimore	L H Douglass	OB	2,454		4	7/1	3	15
Bon Secours Hospital*	Baltimore	E Novak and H B McNally	OB(G†)	2,024	2,385	3	7/1	1	75
Franklin Square Hospital*[1]	Baltimore	K W Mansfield	OB(G†)	1,935	1,469	4	7/1	1	85
Hospital for Women*[1]	Baltimore	J Bergland	OB	1,848	4,016	8	7/1	1	75
Johns Hopkins Hospital*[1]	Baltimore	R W Telinde and N J Eastman	OBG	5,382	28,365	15	7/1	3	41 66
Maryland General Hospital*[1]	Baltimore	E H Kloman and K B Boyd	OBG	1,699	838	4	7/1	2	50
Mercy Hospital*[1]	Baltimore	T K Galvin and J J Erwin	OBG	2,744	4,432	4	7/1	3	50
Provident Hospital and Free Dispensary*	Baltimore		OB	1,596	4,187	8	7/1	1	100
St Agnes Hospital*	Baltimore	E Novak and H B McNally	OBG†	2,134	769	5	7/1	1	75
St Joseph's Hospital*[1]	Baltimore	T K Galvin and H B McNally	OBG	2,510	4,109	4	7/1	3	50

Numerical and other references will be found on page 1215

12 OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Sinai Hospital*[1]	Baltimore	A F Guttmacher	OB	2 781	9,209	3	7/1	2	25
		D Silberman	Gyn	1,202	1 412	6	7/1	1	25
South Baltimore General Hospital*[1]	Baltimore	J King and B E Stegar	OB†	1 072	2 818	2	7/1	1	90
Union Memorial Hospital*	Baltimore	J M Haws	OB	2 865	3 212	3		1	
University Hospital*[1]	Baltimore	L H Douglass J M Hundley Jr	OBG	3 907	29 241	11	7/1	3	75
West Baltimore General Hospital*[1]	Baltimore	W K Diehl and D M Dixon	OBG	3 022	3 058	8	7/1	1	60
Boston City Hospital*[1]	Boston	F L Good and F J Lynch	OBG	5,374	19 317	10	7/1	3	90
Boston Lying In Hospital	Boston	D E Reid	OB	3 035	25 007	10	1/1	3	
Carney Hospital*	Boston	L E Phaneuf	OBG	2 075	3 920	3	7/1	3	50
Massachusetts Memorial Hospital*[1]	Boston	C W Sewall	OB	1 052	3 365	3	7/1	2	50
St Elizabeth's Hospital*	Boston	W J McDonald	OB	2,129	1 560	2	7/1	1	75
Booth Memorial Hospital	Brookline Mass	H S Finkel	OB	1 404	2,856	2	1/1 7/1	1	62.50
Free Hospital for Women	Brookline Mass	G Van S Smith	Gyn	3 040	13,847	4	1/1	3	40
Cambridge City Hospital*	Cambridge Mass	F J Lynch	OBG	2 129	3 151	3	7/1	2	75
St Joseph's Mercy Hospital*[1]	Ann Arbor Mich	W Belser	OBG†	2,282		5	7/1	1	125
University Hospital*[1]	Ann Arbor Mich	N Miller	OBG	2 767	13 548	11	7/1	3	139 60
City of Detroit Receiving Hospital*[1]	Detroit	C S Stevenson	Gyn	901	5,949	2	7/1	3	189 05
Evangelical Deaconess Hospital*[1]	Detroit	L Braun	OBG	1 772	194	2	7/1	1	150
Florence Crittenton Hospital	Detroit	H A Pearse	OBG	2 907	5 146	6	7/1	3	125
Grace Hospital*[1]	Detroit	O W Pickard	OBG	9 181		12	7/1	3	75
Harper Hospital*[1]	Detroit	N E Catherwood	OBG	4 780	3 403	6	7/1	3	110
Henry Ford Hospital*[1]	Detroit	J P Pratt	OBG	3 490	36 571	4	7/1	3	200
Herman Kiefer Hospital[1]	Detroit	C S Stevenson	OB	3 698		3	7/1	3	200
Mt Carmel Mercy Hospital*[1]	Detroit	C N Swanson	OBG	6 618		8	7/1	2	150
Providence Hospital*	Detroit	R W Alles	OBG	5 559		7	7/1	3	140
St Joseph's Mercy Hospital*[1]	Detroit	R B Kennedy	OBG	2 680	538	3	7/1	2	150
Woman's Hospital*[1]	Detroit	H M Nelson and L E Daniels	OBG	5 720		6	7/1	3	165
Hurley Hospital*[1]	Flint Mich	M R. Burnell	OBG	4 200		2	7/1	2	135
Blodgett Memorial Hospital*[1]	Grand Rapids Mich	A B Thompson Jr	OBG	1 003		1	7/1	1	200
Butterworth Hospital*[1]	Grand Rapids Mich	L C Bosch	OBG	4 227	937	4	7/1	2	100
St Mary's Hospital*	Grand Rapids Mich	J H Beaton	OBG	3 862	112	8		1	125
Pontiac General Hospital*[1]	Pontiac Mich	H. A Furlong	OBG	3 749	453	4	7/1	3	75
Saginaw General Hospital*[1]	Saginaw Mich	C E Tosbach	OBG	2 502	1 248	3	7/1	3	85
St Mary's Hospital*	Duluth Minn	A O Swenson	OB	1,881			7/1	2	100
Abbott Hospital*	Minneapolis	C H McKenzie	OB†	1 025		2		1	
Maternity Hospital[1]	Minneapolis	A Arnold	OB	1 638	4 357	2	1/1 7/1	1	195
Minneapolis General Hospital*[1]	Minneapolis	L A Lang	OBG	1 327	5 712	2	1/1 7/1	3	125
Northwestern Hospital*[1]	Minneapolis	C J Ehrenberg	OBG	2 914		2	7/1	2	150
St Barnabas Hospital*[1]	Minneapolis	J T Moehn	OBG	3 097		2	6/1	2	125
St Mary's Hospital*	Minneapolis	L A Lang	OBG	4 468		2	1/1 7/1	2	200
Swedish Hospital*	Minneapolis		OB	2 897			7/1	1	125
University of Minnesota Hospitals*[1]	Minneapolis	J McKelvey	OBG	1 244	4 653	7	7/1	3	125
Mayo Foundation	Rochester Minn	L M Randall	OBG			12		3	92.50
Ancker Hospital*[1]	St Paul	E Kasper	OBG	807	3 085	1		3	91 50
Charles T Miller Hospital*[1]	St Paul	E Hartley and R S Countryman	OBG	3 079	3 355	2	7/1	3	115
St Louis County Hospital*	Clayton Mo	E L Dorsett	OBG	900	5 590	2	7/1	3	80
Kansas City General Hospital No 1*[1]	Kansas City Mo	G F Pendleton	OBG	1 780	6 840	8	7/1	3	50
Kansas City General Hospital No 2*[1]	Kansas City Mo	H L Gainey	OBG	1 281	2 992	4	7/1	2	50
St. Joseph Hospital*	Kansas City Mo	A B Sinclair	OBG	3 435	800	1	7/1	2	150
St Luke's Hospital*[1]	Kansas City Mo	P A Denpel	OBG	3 107	45	1	7/1	2	75
De Paul Hospital*[1]	St. Louis	I M Riordan	OBG†	3 322	260	3	7/1	2	90
Homer G Phillips Hospital*[1]	St Louis	K C Morrin	OBG	4 337	7,593	5	7/1	3	98
Jewish Hospital*[1]	St Louis	M H Meyerhardt	OBG	2 322	1 896	3	7/1	3	50
Missouri Baptist Hospital*[1]	St Louis	J B O Neill	OBG	2 827		2	7/1	2	70
St Louis City Hospital*[1]	St Louis	O Schwarz and J Hardy	OBG	1,225	3 192	6	7/1	3	
St Louis Maternity Hospital[1]	St Louis	W Allen	OBG	4,938	18 967	19	7/1	3	25
St Luke's Hospital*[1]	St Louis	R Paddock	OBG	1 810	1,140	3	7/1	2	75
St Mary's Group of Hospitals*[1]	St Louis	J A Hardy Jr	OBG	6 262	10 770	9	7/1	3	35
Montana Deaconess Hospital*	Great Falls Mont	F L McPhail	OBG	1,220		1	7/1	1	200
Lincoln General Hospital*[1]	Lincoln Neb	H E Harvey	OBG			1	7/1	1	125
St Elizabeth's Hospital*	Lincoln Neb		OB					1	
Creighton Memorial St Joseph's Hospital*	Omaha	M E Grier	OBG	3 619	3 500	4	7/1	3	100
University of Nebraska Hospital*[1] [1]	Omaha	E C Sage	OBG	953	4 078	5	7/1	3	75
Cooper Hospital*[1]	Camden N J	A B Davis and G B German	OBG	4 126	12,582	5	7/1	1	83.33
Jersey City Hospital*[1]	Jersey City N J	F W Bookrajian	Gyn	934	6 372	3		3	35
Margaret Hague Maternity Hospital	Jersey City N J	S A Cosgrove	OB	11 009	16 755	16		3	66 50
Monmouth Memorial Hospital*[1]	Long Branch N J	R A. MacKenzie	OB	1 871	827	2	7/1	2	150
Newark Beth Israel Hospital*	Newark N J		Gyn	1 556	750				
Paterson General Hospital*[1]	Paterson N J	L E Thorn	OB	2,548	940	1	7/1	1	75
Albany Hospital*[1]	Albany N Y	A J Wallingford and T O Gamble	OBG	4 756	2 617	4	7/1	2	41 66
Anthony N Brady Maternity Home	Albany N Y	J O C Kiernan	OB	2 939	3 502	3	7/1	2	40
Beth El Hospital*[1]	Brooklyn	A Koplowitz	OBG	4 370	4,352	4	7/1	2	100
Brooklyn Hospital*[1]	Brooklyn	J T Wallace	OBG	2 720	5 786	2	7/1	3	25
Brooklyn Women's Hospital	Brooklyn	A Koplowitz	OBG	1 888	3,289	3	7/1	1	100
Cumberland Hospital*[1]	Brooklyn	S Lubin	OBG	2 318	11 628	5	7/1	3	80
Greenpoint Hospital*[1]	Brooklyn	W C Meagher	OBG	2,150	13 736	3	7/1	2	80
Jewish Hospital*[1]	Brooklyn	E V Tittauer	OBG	5 090	8 833	8	7/1	3	55
Kings County Hospital*[1]	Brooklyn	R Garlick and M Glass	OBG	8,314	26,842	6	7/1	3	80
Long Island College Hospital*	Brooklyn	F P Light	OBG	3 120	6 033	3	7/1	3	50
Methodist Hospital*[1]	Brooklyn	H C Acken Sr and S C Hall	OBG	3 241	10 279	8	7/1	3	25
Norwegian Lutheran Deaconesses Home and Hospital*[1]	Brooklyn	B A Harris	OB	1 877	3 502	3	7/1	1	50
St Catherine's Hospital*[1]	Brooklyn	C A Gordon	OBG	2 442	3,216	5	7/1	2	75
St John's Hospital*[1]	Brooklyn	C W Mueller	OBG	1 263	3 574	3	7/1	3	95
St Mary's Hospital*	Brooklyn	C H Loughran	OBG	2,618	6 317	3	7/1	2	80
Unity Hospital*[1]	Brooklyn	S L Siegler	OBG	2 596	1 127	4	7/1	2	100
Buffalo General Hospital*[1]	Buffalo	C L Randall	OBG	2 482	5 069	8	7/1	3	25
Children's Hospital[1]	Buffalo	C L. Randall	OB	3,105		2	7/1	2	25
Deaconess Hospital*[1]	Buffalo		OBG	3,212	182		7/1	1	100
Edward J Meyer Memorial Hospital*[1]	Buffalo	E G Winkler	OBG	1 756	8,389	4	7/1	3	100

Numerical and other references will be found on page 1215

12 OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Millard Fillmore Hospital	Buffalo	L F McLean	OBG	5,741	267	7	7/1	3	50
Sisters' of Charity Hospital*[1]	Buffalo	E E Winkler	OB	3 890		4	7/1	3	150
Flushing Hospital and Dispensary*[1]	Flushing, N Y	F Carpenter	OBG	3,924	3 024	1	7/1	3	100
Mary Immaculate Hospital*	Jamaica N Y	J P McManus and J V Rizzi	OB	2,371	2 974	1	7/1	1	75
Queens General Hospital*[1]	Jamaica, N Y	F Carpenter	OBG	3 297	9 891	2	7/1	2	
Nassau Hospital*[1]	Mineola N Y	G Borden	OB	2,491		3	7/1	1	110
Bellevue Hospital Div III—New York University*[1]	New York City		OBG					3	
		H C Falk	(OB†)G	2,963	4,045	2	7/1	1	50
Beth Israel Hospital*[1]	New York City	M Rosensohn	OB	2,614	3 374	3	7/1	1	75
Bronx Hospital*[1]	New York City		Gyn				7/1	1	75
Flower and Fifth Avenue Hospitals*[1]	New York City	L S Loizeaux	OBG	3,067	5 726	3	7/1	3	
Fordham Hospital*[1]	New York City	M L Brandt	OBG	1,796	6 979	3	7/1	2	80
French Hospital*[1]	New York City	H C Williamson	OBG	2,310	5,566	3	7/1	2	20
Harlem Hospital*[1]	New York City	P M Murray and A C Posner	OBG	7,416	39,334	6	1/1, 7/1	3	80
Hospital for Joint Diseases*[1]	New York City	H B Davidson	Gyn	346	2,945	1	7/1	1	40
Jewish Memorial Hospital*	New York City	M Brandt and S Rosenfeld	OBG	2,348	2,002	1	7/1	1	100
Lenox Hill Hospital*[1]	New York City	R. C Van Etten and J C Kilroe	OBG	2 429	7,973	3	Varies	2	50
Lincoln Hospital*[1]	New York City	H C Ingraham	OBG	6 114	18 600	8	7/1	2	50
Metropolitan Hospital*[1]	New York City	H B Safford	OBG	3,587	15,147	3	7/1	2	80
Misericordia Hospital*	New York City	J A Kelly	OB	2,132		1	7/1	1	100
Morrisania City Hospital*[1]	New York City	M J Goodfriend	OB	1 626	8 677	3	7/1	2	80
Mount Sinai Hospital*	New York City	M A Goldberger	Gyn	1,762	8,952	3	7/1	2	50
New York City Hospital*	New York City	M Rashbaum and R J Lowrie	OBG	2 654	16,019	5	7/1	2	80
New York Hospital*[1]	New York City	R G Douglas	OBG	6 887	27,893	14	7/1	3	12 50
New York Infirmary*[1]	New York City	W Ragland	OB	1,374	3,827	2	7/1	2	75
New York Polyclinic Medical School and Hospital*	New York City	F H Dennen	OB	1,540	3,355		7/1	2	
		D N Barrows	Gyn	1,226	3 017	2	7/1	2	50
Presbyterian Hospital*[1] [61]	New York City	H C Taylor, Jr	OBG	5,774	32,811	18	7/1	3	41 66
Roosevelt Hospital*[1]	New York City	T C Peightal	Gyn	957	3,020	1	7/1	2	58.33
St Clare's Hospital*	New York City	M J Jordan	OBG	2,058	4,975	4	7/1	3	25
St Francis Hospital*[1]	New York City	J S Labate	OBG	2,494	6 145	3	1/1, 7/1	2	75
St Vincent's Hospital*[1]	New York City	T F Tavell	OBG	2 848	7,810	3	7/1	2	50
Sydenham Hospital*	New York City	J Tarco	OBG	2,152	3,447	2	7/1	2	130
University Hospital*[1]	New York City	W T Dannreuther	Gyn	768	10 509	2	10/1	2	80
Woman's Hospital[1]	New York City	A H Aldridge	OBG	5 816	38 076	14	1/1 7/1	3	10
United Hospital*[1]	Port Chester N Y.	J Hawthorne	OB	1,302	503	1	7/1	1	100
Genesee Hospital*[1]	Rochester N Y	S R Snow	OBG	1,466	785	2	7/1	3	30
Highland Hospital*[1]	Rochester N Y	J B Loder	OB			2	7/1	1	100
Rochester General Hospital*[1]	Rochester N Y	M Wilkinson	OB	2,804	2,022	1	7/1	3	55
Strong Memorial Rochester Municipal Hospitals*[1]	Rochester, N Y	K M Wilson	OBG	3,822	6 520	8	7/1	3	41.66
Ellis Hospital*[1]	Schenectady N Y	W Mallia	OB	1,985	620	1	7/1	1	100
General Hospital*	Syracuse N Y	R Pieri	OBG	2 205	1 938	3	7/1	2	125
St Joseph's Hospital*[1]	Syracuse N Y	L Fournier	OBG	2 291	928	8	7/1	1	59
Syracuse Memorial Hospital*	Syracuse, N Y	E C Hughes and C E Clark	OPG	3 858	4,471	6	7/1	3	125
Charlotte Memorial Hospital*[1]	Charlotte N C	C S Edgerton	OBG	2,136	1,898	1	7/1	1	75
Duke Hospital*[1]	Durham N C	B Carter	OBG	2,929	15,111	14	7/1	3	83.33
Watts Hospital*[1]	Durham N C	F B Easley	OB	1,665	712	3	7/1	1	50
North Carolina Baptist Hospital*[1]	Winston Salem N C	F R Lock	OBG	2 259	4 383	5	7/1	3	41 66
City Hospital*	Akron Ohio		OBG	4,534	2 412	5	7/1	3	100
Peoples Hospital*[1]	Akron Ohio	L Da Sef	OBG	4 038	1 264	5	7/1	2	100
St Thomas Hospital*	Akron Ohio	R F Etienne	OBG	2,741	1,908	3	7/1	2	125
Aultman Hospital*[1]	Canton Ohio	B V Antes	OBG	4,419	87	5	7/1	1	75
Mercy Hospital*	Canton Ohio	R K Ramsayer	OBG	3,816	90	8	7/1	2	100
Bethesda Hospital*[1]	Cincinnati	G B Haydon and R D Bryant	OBG	3 890	1 088	4	7/1	3	150
Cincinnati General Hospital*[1]	Cincinnati	S Garber	OB	3,767	7,175	6	7/1	3	
City Hospital*[1]	Cleveland	A E Bennett	OB	1,689	2 605	4	7/1	3	60
			Gyn	483	2,646	2	7/1	1	60
Fairview Park Hospital*[1]	Cleveland	E D Saunders	OB	2,625	55	2	7/1	1	100
Lutheran Hospital*[1]	Cleveland	R S Dial	OB	1,666		2	7/1	1	85
Mount Sinai Hospital*[1]	Cleveland	L H Biskind	OBG	3,517	3 413	2	7/1	3	100
St Ann's Maternity Hospital	Cleveland	H C Wise	OB	2 324	726	4	7/1	1	100
St John's Hospital*[1]	Cleveland	J V Helman	OBG	3 055	86	4	7/1	2	100
St Luke's Hospital*[1]	Cleveland	C T Hemmings	OBG	4,335	4,738	4	6/25	3	60
University Hospitals*	Cleveland	M E Black	OBG	6 801	28,766	12	7/1	3	25
Mount Carmel Hospital*[1]	Columbus Ohio	R Daly	OB	3 022	1,040	3	7/1	2	135
Ohio State University Hospital*[1]	Columbus Ohio	A C Barnes	OBG	3 538	13,954	6	7/1	3	50
St Ann's Maternity Hospital	Columbus Ohio	R E Krigbaum	OB	2 193	552	2		2	100
White Cross Hospital*[1]	Columbus Ohio	W M Silbernagel	OB	3 651		3	7/1	2	100
Miami Valley Hospital*[1]	Dayton, Ohio	J K Hoerner	OB	4,540		1	7/1	1	75
Lakewood Hospital*	Lakewood, Ohio	B Wylie	OB	1 504	30	1	7/1	1	100
St Rita's Hospital*[1]	Lima Ohio	V A Noble	OB	2 067	254	1	7/1	2	100
Maumee Valley Hospital*[1]	Toledo Ohio	M W Diethelm	OBG	828	1,146	1	7/1	1	150
Mercy Hospital*	Toledo Ohio	R C King	OBG	3 947	777	4	7/1	2	125
St Vincent's Hospital*[2]	Toledo Ohio	M W Diethelm	OBG	2,927	106	2	7/1	2	
Toledo Hospital*[1]	Toledo Ohio	B H Carroll	OBG	3 579	1 268	4	7/1	3	100
St Elizabeth's Hospital*	Youngstown Ohio	A T Brandt	OBG	4,217	631	3	7/1	2	110
St Anthony Hospital*	Oklahoma City	G Rogers	OBG	4,768	1,968	2	7/1	2	75
University Hospital*	Oklahoma City	J W Kelso and J B Eskridge	OBG	1 982	10,670	2	7/1	3	35
Wesley Hospital*[1]	Oklahoma City	J W Records	OBG	2 856	751	1	7/1	1	150
St John's Hospital*[1]	Tulsa Okla	P N Charbonnet	OB	2 896		3		1	150
Emanuel Hospital*[1]	Portland Ore	C Fearl	OBG	6 574		8	7/1	3	75
St Vincent's Hospital*	Portland Ore	A W Holman	OB	2 495		1	7/1	1	75
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore	H C Stearns	OBG	1,385	8,049	3	7/1	3	75
Abington Memorial Hospital*[1]	Abington, Pa	R D Porter and C M Turman	OBG	2,358	3,041	1	7/1	2	50
St Luke's Hospital*[1]	Bethlehem Pa	T E. Schadt	OBG	2,740	441	2	7/1	2	130
Bryn Mawr Hospital*	Bryn Mawr, Pa	C A. Behney and J L Richards	OBG	357		1	7/1	1	75
George F Geisinger Memorial Hospital and Clinic*[1]	Danville Pa	R E Nicodemus	OB	1,379	9 425	1	7/1	1	75

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ical and other references will be found on page 1215

12 OBSTETRICS AND GYNECOLOGY—Continued

Name of Hospital	Location	Chief of Service	Residencies Approved	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Harrisburg Hospital*[1]	Harrisburg Pa	W P Dailey	OB	2,391	2,267	2	7/1	1	100
Episcopal Hospital*[1]	Philadelphia	T H Dugger	OBG	3 160	6 269	4	7/1	3	
Frankford Hospital*	Philadelphia	G C Hanna	OBG	2,269	2,007		7/1	1	200
Germantown Dispensary and Hospital*[1]	Philadelphia	Z B Newton	OBG	2,264	3 425	2	7/1	2	50
Graduate Hospital of the Univ of Pennsylvania*	Philadelphia	R Kimbrough	Gyn	700	1,762	2	7/1	3	
Hahnemann Hospital*[1]	Philadelphia	B V MacFadyen and N F Paxson	OBG	4 490	11,109	5	7/1	2	50
Hospital of the University of Pennsylvania*[1]	Philadelphia	F L Payne and C Bachman	OBG	3,553	4 523	7	Varies	3	
Hospital of the Woman s Medical College of Pennsylvania*[1]	Philadelphia	M De W Pettit and A G Taylor	OBG	3 213	7,819	5	7/1	3	60
Jefferson Medical College Hospital*	Philadelphia	L C Scheffey and T L Montgomery	OBG	5,310	22,161	7		3	
Jewish Hospital*[1]	Philadelphia		Gyn	3 179		2	7/1	2	50
Lankenau Hospital*[1]	Philadelphia	R B Wilson	OB	973	3 107	1	7/1	2	50
Mount Sinai Hospital*[1]	Philadelphia	A First and C Wachs	OBG	2,153	2,648	2	7/1	2	50
Pennsylvania Hospital*	Philadelphia	C B Lull	OBG	34 564	17,302	6		3	20
Philadelphia General Hospital*[1]	Philadelphia	J C Ullery	OBG	5,346	17 172	5	7/1	3	75
Temple University Hospital*[1]	Philadelphia	J R Willson	OBG	8 704	9,273	8	7/1	3	50
Woman s Hospital*[1]	Philadelphia	Dr Ashton and Dr Waugh	OBG	32,371	8,870	4	7/1	2	50
Pittsburgh Medical Center[1, 69]	Pittsburgh.	J A Hepp and H A. Power	OBG	7,951	5 484	12	7/1	3	41 67
Mercy Hospital*[1]	Pittsburgh	R J Frodey and R A Gillis	OBG	3,337	1 529	2	7/1	2	100
Montefiore Hospital*[1]	Pittsburgh	H Cohen	OB	1,489	2 042	1	7/1	1	50
Pittsburgh Hospital*[1]	Pittsburgh	R A Gillis and E A Conti	OBG	2 065	823	1	9/1	1	100
St. Francis Hospital*[1]	Pittsburgh	J H Carroll and J A Hepp	OBG	2,945	1,925	5	7/1	3	100
St Margaret Memorial Hospital*	Pittsburgh	P Titus	OBG	1 068	555	1	7/1	2	100
South Side Hospital*[1]	Pittsburgh	I A New	OB	1 024	325			1	
		J Hodgkins	Gyn	509	225			1	
Wilkes Barre General Hospital*[1]	Wilkes Barre Pa	J J Kocyan	OB	3 342	460	1	7/1	1	100
Providence Lying In Hospital[1]	Providence R I	A L. Potter	OB	7,840	11 789	2	Varies	1	110
Rhode Island Hospital*[1]	Providence R I	G Waterman	Gyn	1 121	2 038	2	7/1	1	50
Roper Hospital*[1]	Charleston S C	F G Cain and L A Wilson	OBG	2,400	8 673	6	7/1	3	50
Columbia Hospital*[1]	Columbia S C	M O Hutchinson	OBG	2 062	2,221	3	7/1	1	75
Greenville General Hospital*[1]	Greenville S C	H M Allison and R M Dacus	OBG	4,230	2,837	3	7/1	2	100
Baroness Erlanger Hospital*[1]	Chattanooga Tenn	F F Buchner	OB	3 699	4 686	4	7/1	1	75
Baptist Memorial Hospital*	Memphis Tenn	W W Walker	OBG	4,897	1,239	3	7/1	2	75
John Gaston Hospital*	Memphis Tenn	F E Whitacre	OBG	5 665	17 459	10	7/1	3	
St Joseph Hospital*[1]	Memphis Tenn	M. J Roach	OBG	3 468		4	7/1	2	100
George W Hubbard Hospital of Meharry Medical College*[1]	Nashville Tenn	M Walker and W F James	OBG	1,278	3 941	3	7/1	2	100
Nashville General Hospital*	Nashville Tenn	R S Duke and M S Lewis	OBG	2,051	14 672	7	7/1	1	52.50
Vanderbilt University Hospital*[1]	Nashville Tenn	J C Burch	OBG	2,6 0	8,975	10	7/1	3	35 41
Baylor University Hospital*[1]	Dallas Texas	W K. Strother	OBG	7 278	5 145	4	7/1	3	50
Methodist Hospital*[1]	Dallas Texas	L. Hodges	OBG	8,352		7	7/1	1	75
Parkland Hospital*[1]	Dallas Texas	W F Mengert	OBG	2 615	7,575	8	7/1	3	50
Hotel Dieu Sisters Hospital (St Joseph s Maternity Hospital)[1]	El Paso Texas	R J Cardwell	OB	1 181	8,333	1	7/1	2	150
Harris Hospital*[1]	Fort Worth Texas	I Bennett	OBG	4 427	2,220	3	7/1	1	100
University of Texas Medical Branch Hosps *[1] John Sealy Hospital	Galveston Texas	W R Cooke	OBG	2 159	10,290	5	7/1	3	100
Hermann Hospital*[1]	Houston Texas	C Pugsley and A L Dippel	OBG	3 834	9 487	9		3	50
Jefferson Davis Hospital*	Houston Texas	H Johnson	OB	3 217	18 052		7/1	1	25
			Gyn	1,202	8 420	6	7/1	1	25
Memorial Hospital[1]	Houston Texas	J N Tucker and D M Paton	OBG	4 505		1	1/1 7/1	3	150
Methodist Hospital*[1]	Houston Texas	J A Wall and D Wachsman	OBG	1 465	3 016	3	7/1	2	75
St Joseph s Infirmary*	Houston Texas	M. J Meynier	OB	8 120	603	5	Varies	2	100
Thomas D Dee Memorial Hospital*[1]	Ogden Utah	V L Ward	OBG	2,530		2	7/1	3	100
Dr W H Groves Latter Day Saints Hospital*[1]	Salt Lake City.	W M Nebeker	OBG	5,270		5	7/1	3	75
Holy Cross Hospital*	Salt Lake City	J R Wherritt	OB	2,573		3	7/1	2	75
Salt Lake County General Hospital*[1]	Salt Lake City	E G Holmstrom	OBG	1 012	2,493	3	7/1	1	50
Mary Fletcher Hospital*	Burlington Vt	O N Eastman	OBG	1 420	15	1	7/1	1	100
Arlington Hospital[1]	Arlington Va	J B Jacobs	OB	1 514		1	7/1	1	100
University of Virginia Hospital*	Charlottesville Va	J M Nokes	OBG	2,741	7,229	4	7/1	3	62
Riverside Hospital*[1]	Newport News Va	W R Payne	OBG	1,963	692	1	7/1	1	100
De Paul Hospital*[1]	Norfolk Va	J R Kight	OBG	2,241	1 018	2	7/1	1	100
Norfolk General Hospital*[1]	Norfolk Va.	C J Andrews	OB	1,922	567	3	7/1	1	125
Medical College of Virginia Hospital Division*[1]	Richmond Va	H H Ware Jr	OB	5,259	10 787	10		3	
King County Hospital Unit No 1 (Harborview)	Seattle	R R. De Alvarez	OBG	2 130	6 767	2	7/1	3	90
Providence Hospital*[1]	Seattle.	J Clancy	OB	2,479	753	1	7/1	1	100
Swedish Hospital*[1]	Seattle.	W W Bell	OBG	4 063		1		2	100
Virginia Mason Hospital*[1]	Seattle.	R N Rutherford	OB	1,909		1	7/1	1	100
St Luke s Hospital*	Spokane	R E. Gillett	OBG	453		1		1	
St Mary s Hospital*[1]	Huntington W Va.	E. J Humphrey	OB	2,046	651	1	7/1	1	100
State of Wisconsin General Hospital*[1]	Madison Wis	J W Harris	OBG	946	6 796	3	1/1 7/1	3	25
Milwaukee County Hospital*[1, 58]	Milwaukee	R S Cron	OBG	2 690	2 172	3	7/1	3	175.58
St Joseph s Hospital*	Milwaukee	G Kilkenny	OBG	4 968		3	7/1	3	75
St Mary s Hospital*	Milwaukee	J D Owen	OB	4 103	842	2	7/1	1	100
Kapiolani Maternity and Gynecological Hospital[1]	Honolulu Hawaii	L. Bachman and K. S Tom	OBG	5 373	1,900	4	Varies	2	100
Queen s Hospital*[1]	Honolulu Hawaii	K. S Tom and R Sakimoto	OBG	2,500	1 717	3	7/1	2	75

Numerical and other references will be found on page 1215

13 OCCUPATIONAL MEDICINE

The following services are approved by the Council on Medical Education and Hospitals
Hospitals, 1 Assistant Residencies and Residencies, 2

Name of Hospital	Location	Chief of Service	Inpatients Treated	Deaths Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Saginaw General Hospital*[1]	Saginaw, Mich	R D Mudd and J F Manning			2	7/1	2	75

14 OPHTHALMOLOGY

The following services are approved by the Council on Medical Education and Hospitals
Hospitals 160 Assistant Residencies and Residencies, 493

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army							
Letterman General Hospital*	San Francisco	E Maxwell	527	8,164	4	1/1, 7/1	n
Fitzsimmons General Hospital*	Denver	A J Vadala	261	9 190	3	1/1, 7/1	n
Army Medical Center*[15]	Washington, D C	A Lowrey, Jr	343	36,944	9	7/1	n
Brooke Army Medical Center*[14]	San Antonio, Texas	E M Altfather	576	10 087	5	7/1	n
Gorgas Hospital*	Ancon C Z	H W Shreck	201	10,064	3	7/1	n
United States Navy							
U S Naval Hospital*	Long Beach Calif	R C Boyden	233	2,500	2	Varies	n
U S Naval Hospital*	Oakland, Calif	A C Hohn	266	817	2		n
U S Naval Hospital*	San Diego, Calif	R H Ward	445	15,370	3		n
U S Naval Hospital*[1]	Bethesda, Md	A J Delaney	2,344	1,543	4	Varies	n
U S Naval Hospital*[1]	St Albans, N Y	W L Berkley	648	3,982	2		n
U S Naval Hospital*[11]	Philadelphia	F Harbert			3	1/1, 7/1	n
United States Public Health Service							
U S Marine Hospital*[1]	New Orleans	L M Smith	106	3,064	1	7/1	n
U S Marine Hospital*	Seattle	H U Maness	913	5,852	3	7/1	n
Veterans Administration							
Veterans Admin Center*[1]	Los Angeles	C S Mumma	227	1,452	2	7/1	n
Veterans Admin Hospital	San Francisco	D Harrington and M Fine	174	2,685	3	7/1	n
Veterans Admin Hospital*[1]	Van Nuys, Calif	C O Struble	393	1,301	2	1/1, 7/1	n
Veterans Admin Hospital	Chamblee, Ga	F P Calhoun, Jr	249	902	1	7/1	n
Veterans Admin Hospital	Hines, Ill	W A Mann	531		4	1/1, 7/1	n
Veterans Admin Center[1]	Wadsworth Kan	W I Hinkle	224		2	1/1, 7/1	n
Veterans Admin Hospital[1]	Louisville, Ky	W Schutz	563	2,225	2		n
Veterans Admin Hospital[1]	New Orleans	G M Halk	187	648	1	7/1	n
Veterans Admin Hospital[1]	Minneapolis	H Hanson	1,644	989	3	Varies	n
Veterans Admin Hospital[1]	Jefferson Bks, Mo	M Green	361		3	7/1	n
Veterans Admin Hospital[1]	New York City	A G De Voe	349	2,606	4	1/1 7/1	n
Veterans Admin Hospital[1]	Staten Island, N Y	F Constantine	169	1,144	3	7/1	n
Veterans Admin Hospital[1]	Cleveland	I E L Keyes	419	740	2	7/1	n
Veterans Admin Hospital[1]	Oklahoma City	L K Emenhiser	185		1	3/1	n
Veterans Admin Hospital	Portland, Ore	A B Dykman	183	876	1	1/1, 7/1	n
Veterans Admin Hospital	Aspinwall, Pa	J G Linn	468		3	7/1	n
Veterans Admin Hospital	Memphis, Tenn	W F Klotz		721	2		n
Veterans Admin Hospital[1]	Dallas, Texas	R N Tindall	91		1	1/1	n
Veterans Admin Hospital[1]	McKinney Texas	S B Gostin	101	1,825	1	7/1	n
Veterans Admin Hospital	Richmond, Va	E W Perkins	133	1,404	3	7/1	n
Veterans Admin Center[1]	Milwaukee	F Raine	177	948	3	7/1	n
Nonfederal							
Jefferson Hillman Hospital*[1]	Birmingham, Ala	A Callahan	1,312	8,043	4	7/1	50
Arkansas Baptist Hospital*	Little Rock, Ark	K W Cosgrove	480		1	7/1	100
General Hospital of Fresno County*[1]	Fresno, Calif	H Awtrey		4,582	2	7/1	218
Los Angeles County Hospital*[1]	Los Angeles	W J Endres	1,058	14,780	4	Varies	105
White Memorial Hospital*	Los Angeles	M W Nugent	190	9,330	2	7/1	120
San Diego County General Hospital*[1]	San Diego, Calif	G L Kilgore	157	4,242	1	7/1	150
Greens' Eye Hospital	San Francisco	V V Suglian	646	43,811	5	2/1	50
San Francisco Hospital*[1]	San Francisco				2	7/1	175
Stanford University Hospitals*[1]	San Francisco	A E Maumenee	771	8 638	5	7/1	50
University of California Hospital*[1]	San Francisco	F C Cordes	856	12,172	4	7/1	75
University of Colorado Medical Center Colorado General Hospital*	Denver	R W Danielson	134	7,630	4	7/1	75
Grace New Haven Community Hospital, New Haven Unit (University Service)*[1]	New Haven, Conn	E Blake	403	6,380	1	7/1	40
Episcopal Eye, Ear and Throat Hospital[1][11]	Washington, D C	G V Simpson			6	4/1	
Gallinger Municipal Hospital*[1]	Washington, D C	E J Cummings	153	5 984	2	7/1	100
Grady Memorial Hospital*[1]	Atlanta, Ga	A V Hallum	407	10 810	5	7/1	20
Chicago Eye, Ear, Nose and Throat College and Hospital	Chicago	D T Vail	512	16 180	6	1/1, 7/1	32
Cook County Hospital*[1]	Chicago	W F Hughes	2 598	60,909	21	7/1	50
Illinois Eye and Ear Infirmary[1]	Chicago	L G Hoffman	95	2,061	1	7/1	25
Mercy Hospital Loyola University Clinics*[1]	Chicago	T Shapira	595	4,539	2	1/1, 7/1	25
Michael Reese Hospital*[1]	Chicago	D Vail	573	572	2	1/1, 7/1	
Passavant Memorial Hospital*	Chicago	J M Donegan	283	6 367	2		25
Presbyterian Hospital*	Chicago	W M Jones	104	5,782	2	7/1	50
Provident Hospital*	Chicago	W F Hughes	249	9,571	2	7/1	55
Research and Educational Hospitals*[1]	Chicago	J Donegan		777	1	4/1	75
St Joseph Hospital*	Chicago	R C Gamble	331		1	7/1	25
St Luke's Hospital*[1]	Chicago	A C Krause	150	12 012	5	7/1	25
University of Chicago Clinics*	Chicago	W A Mann	343		1	7/1	25
Wesley Memorial Hospital*[1]	Chicago	F M Whitsell	220	7,500	1	7/1	150
Woodlawn Hospital*[1]	Chicago	J M Masters	228	7,304	3	7/1	80
Indianapolis General Hospital*[1]	Indianapolis						

Numerical and other references will be found on page 1215

14 OPHTHALMOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered *	Beginning of Service (1950)	Beginning Stipend (Month)
Indiana University Medical Center*[1]	Indianapolis	R Masters	264	8 038	4	7/1	68.33
University Hospitals*[1]	Iowa City	C S O Brien	1 444	5 024	8		
Louisville General Hospital*[1]	Louisville Ky	C D Townes	173	6,375	2	7/1	50
Charity Hospital of Louisiana*[1]	New Orleans	J H Larose	1 403	24 234		7/1	25
Eye Ear Nose and Throat Hospital[1]	New Orleans	W R. Buffington	1 256	2,224	6	7/1	
Touro Infirmary*[1]	New Orleans	A Braunstein	100	2 621	1	7/1	25
Baltimore Eye Ear and Throat Charity Hospital[1]	Baltimore	C A Clapp	904	13 686	3	7/1	10
Johns Hopkins Hospital*[1]	Baltimore	A C Woods	1 496	19 564	6	7/1	41 66
University Hospital*[1]	Baltimore	F E Knowles Jr	42	4 507	1	7/1	75
Boston City Hospital*[1]	Boston	J J Regan	594	16 591	7	1/1 7/1	110
Massachusetts Eye and Ear Infirmary	Boston	F B Dunphy	3 267	45,342	11		40
University Hospital*[1]	Ann Arbor Mich	F B Fralick	544	10 974	8	7/1	139 60
City of Detroit Receiving Hospital*[1]	Detroit	A D Ruedemann	409	12 404	7	7/1	189 08
Grace Hospital*[1]	Detroit	R S Goux	1 943		1	7/1	75
Harper Hospital*[1]	Detroit	R H Pino	1 223	6 208	4	7/1	110
Henry Ford Hospital*[1]	Detroit	E L Whitney	326	18 706	4	7/1	200
Wayne County General Hospital and Infirmary*[1]	Eloise Mich	F T May	430	5 633	2	7/1	235
Minneapolis General Hospital*[1]	Minneapolis	W K Haven	160	3 951	2	1/1 7/1	125
University of Minnesota Hospitals*[1]	Minneapolis	F Hansen	218	6 419	11	7/1	125
Mayo Foundation	Rochester Minn	C W Rucker			12	Varies	92.50
Ancker Hospital*[1]	St Paul	J Hilger	121	8 556	1	7/1	91.50
Charles T Miller Hospital*[1]	St Paul	F Burch	615	3 558	2	7/1	115
St Louis County Hospital*	Clayton Mo	D Bisno	76	3 403	2	7/1	80
Kansas City General Hospital No 1*	Kansas City Mo	A N Lemoine Jr	236	4 808	2	7/1	50
Barnes Hospital*[1]	St Louis	L. T Post	1 568	18 233	7	7/1	10
Homer G Phillips Hospital*[1]	St Louis	L T Post	120	2 573		7/1	85
St Louis City Hospital*[1]	St Louis	D Bisno and R. Mattis	189	4 084	2	7/1	*
St. Mary s Group of Hospitals*[1]	St Louis	W H Luedde	276	7 690	3	7/1	35
University of Nebraska Hospital*[1]	Omaha	J H Judd	150	1 882	2	7/1	75
Jersey City Hospital*[1]	Jersey City N J	F X Brophy	269	7 883	5	Varies	35
Newark Eye and Ear Infirmary	Newark N J		1 133	7 288	2	1/1 7/1	
Brooklyn Eye and Ear Hospital[1]	Brooklyn	E C Place	2 478	51 446	8	1/1 7/1	
Kings County Hospital*[1]	Brooklyn	W Moehle	424	12 732	4	1/1 7/1	80
Long Island College Hospital*[1]	Brooklyn	M A Jasky	134	4 041	2	7/1	50
Buffalo General Hospital*	Buffalo	I J Koenig	263	1 874	2	7/1	25
Edward J Meyer Memorial Hospital*[1]	Buffalo	I J Koenig	149	5,204	4	7/1	100
Millard Fillmore Hospital*	Buffalo	E B Hague	140				
Queens General Hospital*[1]	Jamaica, N Y	T D Angelo	230	6 404	1	9/15	
New Rochelle Hospital*	New Rochelle N Y	H N Stevenson					
Bellevue Hospital Div III—New York University*	New York City						
Beth Israel Hospital*[1]	New York City	E B Gre[illegible]er	208	3 436	1	7/1	50
Bronx Eye and Ear Infirmary	New York City	N J Gould	860	16 458	1	7/1	50
Goldwater Memorial Hospital*[1]	New York City	J W Smith	1 655	1 646	3	7/1	70
Harlem Eye and Ear Hospital[1]	New York City	C B Meding	481	14,800	4	1/1 7/1	
Lenox Hill Hospital*[1]	New York City	J J Reid	316	5 177	1	Varies	50
Manhattan Eye Ear and Throat Hospital[1]	New York City	R T Paton	2,574	74 300	10	1/1 7/1	
Metropolitan Hospital*[1]	New York City	C A Turtz	66	4,553	1	7/1	130
Montefiore Hospital*[1]	New York City	S Gartner	77				
Mount Sinai Hospital*	New York City	H Minsky	450	11 016	2	7/1	50
New York City Hospital*[1]	New York City	I Givner	167	4 780	2	7/1	130
New York Eye and Ear Infirmary[1]	New York City	C Berens	2,833	68 593	15	10/1	
New York Hospital*[1]	New York City	J McLean	505	15 018	4	7/1	25
New York Polyclinic Medical School and Hospital*	New York City	S J Kapetzky	177	5 130		7/1	50
Presbyterian Hospital*[1] [52]	New York City	J H Dunnington	2 533	30 767	9	7/1	41 66
St Luke s Hospital*	New York City	W G Frey	170	7 645	1	1/1 7/1	50
University Hospital*	New York City	A. Braley	202	6 591	3	7/1	80
Rochester General Hospital*[1]	Rochester N Y	E R Vernon	181	1 462	1	7/1	55
St Mary s Hospital*[1]	Rochester N Y	C Sullivan	244	1,301	1	7/1	125
Strong Memorial Rochester Municipal Hospitals*[1]	Rochester N Y	J F Gipner	502	5 579	2	7/1	41 66
Sea View Hospital[1]	Staten Island N Y	S Saltzman	1,814		1	7/1	130
Grasslands Hospital*[1]	Valhalla N Y	C Wood	109	5 124	2	7/1	125
Duke Hospital*[1]	Durham N C	W B Anderson	374	8 855	5	7/1	83.33
McPherson Hospital[1]	Durham N C		1,007	40 000	2	Varies	25
North Carolina Baptist Hospital*[1]	Winston Salem N C	W Roberts	154	3 311	1	9/1	41 66
Cincinnati General Hospital*[1]	Cincinnati	D Lyle	402	9,924	8	7/1	
City Hospital*[1]	Cleveland	G L Miller	182	5 473	2	1/1 7/1	70
Cleveland Clinic Hospital[1]	Cleveland	R J Kennedy	341	23,343	3	7/1	100
St Luke s Hospital*	Cleveland	M W Jacoby	356	2,816	1	6/25	90
University Hospitals*[1]	Cleveland	A B. Bruner	948	5 776	3	7/1	25
Ohio State University Hospital*[1]	Columbus Ohio	A M Culler	212	5,800	4	7/1	50
University Hospitals*[1]	Oklahoma City	J P McGee	364	4 097	1	7/1	35
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore	K C Swan	293	12,515	6	7/1	75
George F Geisinger Memorial Hospital*[1]	Danville Pa	C H Jacobs	217	9 820	2	7/1	75
Graduate Hospital of the University of Pennsylvania*	Philadelphia	E B Spaeth	82[illegible]	2 664	3	7/1	
Hospital of the University of Pennsylvania*[1] [52]	Philadelphia	F H Adler	856	9 [illegible]63	9	Varies	
Jefferson Medical College Hospital*	Philadelphia		188	5,500	2		
Philadelphia General Hospital*[1]	Philadelphia	G J Dublin	158	4 498	2	7/1	75
Temple University Hospital*[1]	Philadelphia	G G Gibson	286	3,563	8	7/1	50
Wills Hospital[1]	Philadelphia		4 211	104 809	12	Varies	
Pittsburgh Medical Center **	Pittsburgh	J G Linn	1,625	10 546	4	1/1 7/1	41 66
Robert Packer Hospital*	Sayre Pa						
Roper Hospital*[1]	Charleston S C	J F Townsend	1 160	2 792		7/1	50
Knoxville General Hospital	Knoxville Tenn	H E Christenberry	104	713	1	7/1	95
John Gaston Hospital*	Memphis Tenn	P M Lewis	252	5 084			
Memphis Eye Ear Nose and Throat Hospital	Memphis Tenn	D H Anthony			4	1/1 7/1	40
Nashville General Hospital*[11]	Nashville Tenn	N B Morris					
Parkland Hospital*[1]	Dallas Texas	J G Jones	126	2,728		7/1	50
University of Texas Medical Branch Hospitals John Sealy Hospital*	Galveston Texas						
Jefferson Davis Hospital*[1]	Houston, Texas	E L Goar	292	5,324	2	7/1	25

Numerical and other references will be found on page 1215

14 OPHTHALMOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Asst Res and Residencies Offered 8	Beginning of Service (1950)	Beginning Stipend (Month)
University of Virginia Hospital*	Charlottesville, Va	F Burton	323	3,599	3	7/1	
Medical College of Virginia Hospital Division*1	Richmond, Va	R H Courtney	481	5,585	3		
Gill Memorial Eye, Ear and Throat Hospital	Roanoke, Va	E G Gill	220	3 068	2	1/1	100
King County Hospital, Unit No 1 (Harborview)*1	Seattle	C D F Jenson	137	1,481	1	7/1	90
State of Wisconsin General Hospital*1 11	Madison, Wis	F A Davis			4	1/1, 7/1	25
St Joseph's Hospital*11	Marshfield, Wis	I A Copps					
Milwaukee County Hospital*1	Milwaukee	F F Carl	425	6,308	3	7/1	175

15 ORTHOPEDIC SURGERY

The following services are approved by the Council and the American Board of Orthopedic Surgery
Hospitals 257 Assistant Residencies and Residencies 779

Name of Hospital	Location	Chief of Service	Type of Training 11	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered 8	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army											
Letterman General Hospital*	San Francisco	O B Bollbaugh	AFS	2,006	2 232	10	8	8	1/1, 7/1	2	n
Fitzsimmons General Hospital*	Denver	H S McBurney	AFS	1 227	3,113	5	5	6	1/1, 7/1	2	n
Army Medical Center*15	Washington, D C	A W Spittler	AFS	912	4,163	3	2	14	7/1	2	n
Brooke Army Medical Center*14	San Antonio Texas	M S Thompson	AFS	2 280	6,236	8	4	8	7/1	2	n
Tripler General Hospital*	Moanalua, T H	F A Bray	AF	1 120	2 597				7/1	1½	n
United States Navy											
U S Naval Hospital*	Long Beach, Calif	R R Myers	AF	1,807	4 070			2		1½	n
U S Naval Hospital*	Oakland, Calif	C R Carr	AFS	1,435	2,400	4	3	2		2	n
U S Naval Hospital*	San Diego, Calif	R F Legge	AF	1,669	1,853	4	3			1½	n
U S Naval Hospital*1	Bethesda Md	F P Kreuz	AFS	1 469	4,321	2	1	4	Varies	2	n
U S Naval Hospital*	Chelsea Mass	W C Roland	AFS	770	2,520	4	2			2	n
Naval Hospital*1	St Albans, N Y	E H Osterloh	AFS	953	1 308	2	1	3		2	n
val Hospital*	Philadelphia	O F Morrison	AFS	1 362	4 231	11	3	1	1/1, 7/1	2	n
States Public Health Service											
arine Hospital*1	Stapleton S I, N Y	F J Krueger	AFS	1 706	6 201	3	1	5	7/1	2	n
Federal Security Agency											
reedmen's Hospital*1	Washington, D C	J S Neviaser	AOFS	259	5,188	10	4	1	7/1	3	n
Veterans Administration											
Veterans Admin Center*1	Los Angeles	R Mazet Jr	AFS	711	2 50			8	7/1	2	n
Veterans Admin Hospital	San Francisco	J J Loutzenheiser and F J Cox	AFS	372			1	8	7/1	2	n
Veterans Admin Hospital*1	Van Nuys, Calif	J H Aldes	AFS	802			2	5	Varies	2	n
Veterans Admin Hospital1	Fort Logan, Colo	M F Gibbens	AF	862				2	1/1	1½	
Veterans Admin Hospital	Chamblee, Ga	R P Kelley	AFS	689			2	4	7/1	2	
Veterans Admin Hospital	Hines, Ill	H A Sofield	AFS	8,625			4	14	1/1, 7/1	2	
Veterans Admin Hospital1	Indianapolis	H L Egbert	AF	425			4	1	1/1, 7/1	1	
Veterans Admin Hospital	Des Moines, Iowa		AF							1	
Veterans Admin Center1	Wadsworth, Kan	W H Snead	AFS	587			6	5	1/1, 7/1	2	
Veterans Admin Hospital1	Louisville, Ky	J Lyford III	AFS	967			8	5			
Veterans Admin Hospital1	New Orleans	H Alldredge	AFS	1,071			1	3	7/1		
Veterans Admin Hospital	Fort Howard, Md	Bank	AFS	338				4	7/1		
Veterans Admin Hospital (West Roxbury)	Boston		AS	508				2	1/1, 7/1		
Veterans Admin Hospital1	Framingham Mas	son	AFS	727				2	7/1		
Veterans Adm'n Hospital	Dearborn, Mich		A								
Veterans Admin Hospital1	Minneapolis		AFS	2,040				8	Varies		
Veterans Admin Hosp'tal1	Jefferson Bks, Mo		AFS	765				5	7/1		
Veterans Admin Hospital	Lincoln, Neb	mson	AFS	862				3	7/1		
Veterans Admin Hospital	Albuquerque, N Mex		AF	322				1	7/1		
Veterans Admin Hospital1	New York City		AFS	765					1/1, 7/		
Veterans Admin Hospital1	Staten Island, N Y	ıı	A	544					7/1		
Veterans Admin Hospital1	Cleveland		AFS	1 026					7/1		
Veterans Admin Hospital1	Oklahoma City		AFS	456					1/1		
Veterans Admin Hospital	Portland, Ore		AFS	608					1/1,		
Veterans Admin Hospital	Aspinwall, Pa		AFS	367					7/		
Veterans Admin Hospital	Columbia S C	Jr	AFS	609							
Veterans Admin Hospital	Memphis Tenn	I	AFS	1 079					-		
Veterans Admin Hospital1	Dallas, Texas		AF	595							
Veterans Admin Hospital1	McKinney, Texas	T	S	620							
Veterans Admin Hospital1	Salt Lake City, Utah	J		461							
Veterans Admin Hospital	Richmond, Va	R		559							
Veterans Admin Center	Milwaukee	P		1,004							
Nonfederal											
Jefferson Hillman Hosp tal*1	Birmingham, Ala	J S1		739							
Employees' Hospital of Tennessee Coal, Iron and Railroad Company*	Fairfield Ala	C H W									
City Hospital*	Mobile, Ala	W C H									
Arkansas Children's Home and Hospital	Little Rock, Ark	W V Ne									
Children's Hospital*	Los Angeles	J C Wils									
Los Angeles County Hospital*1	Los Angeles	V P Thom									
Orthopaedic Hospital	Los Angeles	A Brockwa									
White Memorial Hospital*	Los Angeles	G M Taylo									
Highland Alameda County Hospital*1	Oakland, Calif	L Barnard									
Permanente Foundation Hosp'tal*1	Oakland, Calif	P H Ha									
Samuel Merritt Hospital	Oakland, Calif	H H H'tch									
San Diego County General Hospital*1	San Diego, Calif	M B Coutts									
Children's Hospital	San Francisco	L Abbott									
Franklin Hospital*1	San Francisco	L C Abbott n F C Bost									
St Joseph's Hospital*	San Francisco	R Soto Hall									
St Mary's Hospital*	San Francisco	J Loutzenheiser									

Numerical and other references will be fo

15 ORTHOPEDIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Type of Training[14]	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered ■	Beginning of Service (10.0)	Length of Approved Program (Years)	Beginning Stipend (Month)
San Francisco Hospital★[1][30]	San Francisco		AF					2	7/1	1½	175
Shriners Hospital for Crippled Children	San Francisco	F C Bost	C	219	3 119			2	4/1	1	100
Stanford University Hospital★[1][37]	San Francisco	D E King	ACFS	607	5 708	5	2	1	7/1	3	50
University of California Hospital★[1]	San Francisco	L. C Abbott	A	197	6 800			2	7/1	1	75
Santa Clara County Hospital★	San Jose Calif	N Abnlund	AF	348	3,241	20	8	2	7/1	1½	235
Children's Hospital[1]	Denver	W F Stanek	C	509	3 480			2	1/1 7/1	1	50
University of Colorado Medical Center											
Colorado General Hospital★	Denver	H I Bernard	AFS	497	2 007	9	3	2	7/1	2	75
Denver General Hospital★[1][9]	Denver	I E Hendryson	AF	716	2,063	47	26	1	7/1	1½	75
Corwin Hospital★[1]	Pueblo Colo	D W Boyer	F	744	15 866	8			7/1	½	75
Hartford Hospital★[1]	Hartford Conn	M. M Pike	AFS	1,538	604	20	7	2	7/1	2	50
Grace New Haven Community Hospital											
New Haven Unit (University Service)★[1]	New Haven Conn	N Shutkin	AFS	614	4 550	11	5	1	7/1	2	40
Hospital of St Raphael★[1]	New Haven Conn	D O Connor	AF	443		17	3	1	7/1	1½	75
Newington Home and Hospital for Crippled Children	Newington Conn	C W Goff	C	415	3 161			2	1/1 7/1	1	100
Alfred I DuPont Institute of the Nemours Foundation[1]	Wilmington Del	A R Shands Jr	C	180	2,377	2	1	3		1	100
Gallinger Municipal Hospital★[1][21]	Washington D C	M C Cobey	ACFS	585	6 065	16	3	5	7/1	3	100
Hope Haven Hospital	Jacksonville Fla	F Fort	C	286	857	6	1	1	7/1	1	100
Jackson Memorial Hospital★[1]	Miami Fla	A H Weiland	ACF	1,806	3 332	34	11	4	7/1	2½	60
Grady Memorial Hospital★[1]	Atlanta Ga	T P Goodwyn	AFS	875	8,841	33	8	2	7/1	2	40
University Hospital★	Augusta Ga	P B Wright	ACFS	634	2 837	18	2	3	7/1	3	40
Scottish Rite Hospital for Crippled Children	Decatur Ga	J H Kite	C	307	3 125	1	1	1	1/1	1	150
†Emory University Hospital★	Emory University Ga	R P Kelly	C	386		6	1	1	7/1	1	50
Children's Memorial Hospital	Chicago	F L Compere	C		2,014			1	1/1 7/1	1	75
Cook County Hospital★[1]	Chicago	D S Miller	AF	652	8 209	20	5	8	1/1 7/1	1½	82
Illinois Masonic Hospital★[1]	Chicago..	Dr W Fischer and Dr Pease	AF	188	8 038			1	1/1 7/1	1½	50
Mercy Hospital Loyola University Clinics★[1]	Chicago	C Scuderi	F	517	550	15	3	1	7/1	½	25
Michael Reese Hospital★[1]	Chicago	I Wolin	AC	603	8 005	4	1	8	7/1	2	25
Northwestern University Medical Center											
Passavant Memorial Hospital★[1]											
Wesley Memorial Hospital★	Chicago	E L Compere	AFS	1 576		7	5	8	7/1	2	25
Research & Educational Hospitals★[1]	Chicago..	F A Chandler	ACFS	720	10,283	4	3	6	7/1	3	55
St Elizabeth Hospital★	Chicago	J J Callahan	F	401		1		1		½	60
St Luke's Hospital★[1]	Chicago	C N Lambert	A	450		2	1	2	7/1	1	25
Shriners Hospital for Crippled Children	Chicago	H A Sofield	C	250	2 124	1	1	3	1/1 7/1	1	
University of Chicago Clinics	Chicago	C H Hatcher	ACFS	574	5 018	4	4	4	7/1	3	25
Evanston Hospital★	Evanston Ill	V C Turner	AF	619	1 244	8	2	1	7/1	1½	50
St Francis Hospital★	Evanston Ill	J J Fahey	AF	684	1,605	29	7	2	1/1 7/1	1½	75
West Suburban Hospital★	Oak Park Ill	H A Sofield	AF	282	989	13	4	1	1/1 7/1	1½	150
St Francis Hospital★[1]	Peoria Ill	H E Cooper	ACF	660	3 711			1	7/1	2½	100
Indianapolis General Hospital★	Indianapolis	C Thompson	AFS	747	7 478	38	6	4	7/1	2	80
Indiana University Medical Center★[1]	Indianapolis	G J Garceau	ACFS	1 030	10 103	9	6	6	7/1	3	68.33
Methodist Hospital★[1]	Indianapolis	C F Thompson	AF	1 401		82	10	2		1½	200
St Vincent's Hospital★	Indianapolis	G J Garceau	AFS	1 045	3 724	19	3	2	7/1	2	200
Iowa Methodist Hospital★[1]	Des Moines Iowa	E M George	AF	566		3	1		7/1	1½	75
Mercy Hospital	Iowa City	A Steindler	A	375	1 410	2	1	2	1/1 7/1	1	75
University Hospitals★[1]	Iowa City	R W Newman	ACF	2 707	4 976	10	6	18		2½	
University of Kansas Medical Center★	Kansas City Kan	J B Weaver	ACFS	617	2 905	10	1	2	7/1	3	100
Kosair Crippled Children Hospital	Louisville Ky	H Goldberg	C	1,301	778			4	1/1	1	100
Louisville General Hospital★[1]	Louisville Ky	K. A Fischer	AFS	56	7 060	20	4	2	7/1	2	75
Charity Hospital of Louisiana★[1]	New Orleans				45 818			15	7/1		25
Independent Service	New Orleans		ACFS							3	
Louisiana State University											
Tulane University Units	New Orleans		ACFS							3	
Ochsner Foundation Hospital[1]	New Orleans	G A Caldwell	AFS	279	5 038			4	1/1 7/1	2	125
Touro Infirmary★[1]	New Orleans	G A Caldwell	AC	539	1 131	6	8	2	7/1	2	17 50
Shreveport Charity Hospital★	Shreveport La	T M Oxford	ACFS	755	4,584	14	5	8	7/1	3	60
Shriners Hospital for Crippled Children	Shreveport La	C D Caldwell	C	138	901			1	7/1	1	100
Children's Hospital	Baltimore..	R W Johnson	C	580	543	1		4	7/1	1	
James Lawrence Kernan Hospital and Industrial School for Crippled Children	Baltimore	A F Voshell	C	812	5 283	1		2	7/1	1	100
Johns Hopkins Hospital★[1]	Baltimore	R W Johnson Jr	AFS	516	9 751	5	2	8	7/1	2	41 66
Boston City Hospital★[1]	Boston	J H Shortell	AF	1 193	32,446	16		6	1/1 7/1	1½	110
Children's Hospital★[1]	Boston	W Green	CS	743	12,465		1	9		1½	
Lahey Clinic	Boston		AS							1½	
Massachusetts General Hospital★[8]	Boston		ACFS							3	
Peter Bent Brigham Hospital★[1]	Boston	W T Green	AF					1	7/1	1½	41 66
Massachusetts Hospital School[15]	Canton Mass	P L Norton	CF	114				2	1/1	1½	430
Shriners Hospital for Crippled Children	Springfield Mass	C De V Hough	C	320	3 192			1	1/1	1	25
Worcester City Hospital★[1]	Worcester Mass	J W O Meara	ACFS	654	1 144	27	4	2	1/1	3	100
University Hospital★[1]	Ann Arbor Mich	C E Badgley	ACFS	1 157	10 441	6	2	6	7/1	3	139 60
Children's Hospital[1]	Detroit	F J Fischer	C	281	2 744			1	7/1	1	50
City of Detroit Receiving Hospital★[1]	Detroit	A D La Ferte	F	763	8 478	28	26	2	7/1	½	189 08
Harper Hospital★[1]	Detroit	A G Goetz	ACFS	720	945	1		1	7/1	3	110
Henry Ford Hospital★[1]	Detroit	C L Mitchell	ACFS	1 198	15 605	6	1	6	7/1	3	200
Blodgett Memorial Hospital★	Grand Rapids Mich	J T Hodgen	ACF	270				1	1/1	2½	200
Borgess Hospital	Kalamazoo Mich	H Stryker	AF	430		1		1	1/1 7/1	1½	200
Shriners Hospital for Crippled Children	Minneapolis	W H Cole	C	150	404			1	7/1	1	
University of Minnesota Hospitals★[1]	Minneapolis	W Cole	A	202	2 142	5	2	1	7/1	1	125
Mayo Foundation	Rochester Minn	R K Ghormley	ACFS					15		3	92.50
Gillette State Hospital for Crippled Children[1]	St Paul	C C Chatterton	C	701	3 710	5	5	4	1/1 7/1	1	
Mississippi Baptist Hospital★	Jackson Miss	T L Blake	C	1 033	4 000	12	2	1	7/1	1	275
University Hospitals	Columbia Mo	W J Stewart	C	219	1 175	3			1/1 7/1	1	90
Children's Mercy Hospital	Kansas City Mo	N S Pickard	C	247	2,888			2	1/1 7/1	1	85
Kansas City General Hospital No 1★	Kansas City Mo	R. Diveley	AF	978	5 077	54	24	3	1/1 7/1	1½	50
St Luke's Hospital★	Kansas City Mo	F Dickson	ACF	481	9 180	4	4	3	7/1	2½	75
Barnes Hospital★	St. Louis	J A. Key	ACFS	887	3 682	2	2	1	7/1	3	25
St Louis City Hospital★[1]	St Louis	E Holscher and R O Brien	F	865	929	70	3	2	7/1	½	
St Mary's Group of Hospitals★[1]	St Louis..	R. M O Brien	ACFS	531	3 761	4	4	5	7/1	3	85
Shriners Hospital for Crippled Children	St Louis	C H Crego Jr	C	884	1 799			2	7/1	1	
Nebraska Orthopedic Hospital[1]	Lincoln Neb	H W Orr	C	854	2 333	14	8	2	2/1	1	150
University of Nebraska Hospital★[1]	Omaha	W H Hamsa	ACFS	178	620	5	4	2	7/1	3	75
Jersey City Hospital★[1]	Jersey City N J	H O Benjamin	ACF	726	11,203	38	5	5		2½	85
Monmouth Memorial Hospital★[1][34]	Long Branch N J	N S Ransohoff	ACF	1 051	2 135	15	11	3	7/1	2½	100

Numerical and other references will be found on page 1215

15 ORTHOPEDIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Type of Training[14]	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Hospital for Crippled Children	Newark, N J	H H Kessler and T Nicola	AO	834	6,890	2		2	8/1	2	75
New Jersey Orthopaedic Hospital	Orange, N J	H W Smith	AO	701	14,020			2	7/1	2	90
Orange Memorial Hospital	Orange, N J		F							½	
Orthopaedic Hospital and Dispensary	Trenton, N J	R B Ernest	A	340	4,494	6		1	7/1	1	150
Carrie Tingley Hospital for Crippled Children	Hot Springs, N Mex	W L Minear	C	358	2,095	3	3	2	1/1, 7/1	1	75
Albany Hospital*[1]	Albany, N Y	J W Ghormley	ASF	436	752	12	4	2	7/1	2	41 66
Binghamton City Hospital*[1]	Binghamton, N Y	A Carpenter	AO	308				1	7/1	2	100
House of St Giles The Cripple	Brooklyn	M Cleveland	C	186	9,253			2	7/1	1	50
Jewish Hospital*[1]	Brooklyn	J Milgrim and M T Koven	AFS	1,107	7,304	9	2	1	7/1	2	30
Kings County Hospital*[1]	Brooklyn	C C Vitale	ACFS	431	7,844	3	1	8	7/1	3	80
Long Island College Hospital*[1]	Brooklyn	H C Fett	AFS	484	6,514	6	4	2	7/1	2	50
Methodist Hospital*[1]	Brooklyn	H P Lange, Sr	AF	1,390	1,870	2		1	7/1	1½	25
St Charles Hospital Orthopedic Clinic	Brooklyn	H C Fett	C	241	2,736	3	1	3	7/1	1	100
Buffalo General Hospital*	Buffalo	F N Potts	AFS	772	663	10	2	6	7/1	2	25
Children's Hospital[1]	Buffalo	T N Potts	C	289		1		3	7/1	1	25
Edward J Meyer Memorial Hospital*[1]	Buffalo	P Blanco	AFS	182	1,538	2	1	1	7/1	2	100
Millard Fillmore Hospital*	Buffalo	G H Marcy	A	504	416	6	2	1	7/1	1	50
Meadowbrook Hospital*	Hempstead, N Y	O C Hudson	F	638	792	93	17	2	7/1	½	134
Queens General Hospital*[1]	Jamaica, N Y	F C Courten	AFS	275	17,926	12	6	3	7/1	2	
Nassau Hospital*[1]	Mineola, N Y	O C Hudson	AF	1,482		7		1	7/1	1½	110
Bellevue Hospital Div IV—Open Division	New York City		AC							2	
Flower and Fifth Avenue Hospitals*[1]	New York City	M J Wilson	AF	336	1,694	3	1		7/1	1½	
Hospital for Joint Diseases*[1,35]	New York City	Dr Buchman and Dr Kleinfeld	ACFS	2,957	35,070	12	3	10	1/1, 7/1	3	40
Hospital for Special Surgery	New York City	P D Wilson	ACFS	1,445	20,744	8	5	8	1/1, 7/1	3	50
Lenox Hill Hospital*[1]	New York City	A Wiesenthal	AF	498	2,193	12	1	2	Varies	1½	50
Metropolitan Hospital*[1]	New York City	M J Wilson	AFS	657	2,719	25		3	7/1	2	
Mount Sinai Hospital*	New York City	R K Lippmann	AFS	514	8,483	2		3	7/1	2	50
New York Hospital*[1]	New York City	F L Liebolt	ACS	180	7,563					2½	
Presbyterian Hospital*[1,20]	New York City	A DeF Smith	ACFS	1,897	69,703	7		22	7/1	3	41 66
St Luke's Hospital*[24]	New York City	M Cleveland	ACFS	712	6,679	7	2	2	7/1	3	50
St Charles Hospital for Crippled Children	Port Jefferson N Y	F S Child	C	387	4,938	2	1	2	1/1 7/1	1	100
Rochester General Hospital*[1]	Rochester, N Y	H B Crawford	A	660	1,528	8	5	1	7/1	1	55
Strong Memorial Rochester Municipal Hospitals*[1,23]	Rochester N Y	R P Schwartz	ACFS	857	6,147			8	7/1	3	41 66
Ellis Hospital & Eastern New York Orthopedic Hospital School	Schenectady N Y		AO							2	
Rehabilitation Hospital[1]	W Haverstraw N Y	J C McCauley, Jr	AC	322	1,093	1		4		2	200
Charlotte Memorial Hospital	Charlotte N C	J E Jacobs	A	1,244	1,460	11	5	4		1	
Duke Hospital*[1,10]	Durham, N C	L D Baker	ACFS	600	4,5 6			20	7/1	3	83 33
North Carolina Baptist Hospital*[1]	Winston Salem, N C	R A Moore	AFS	368	5,202	6	2	1	8/1	2	41 66
Children's Hospital[1]	Akron, Ohio	P C Doran	C	468	2,575			2	7/1	1	100
City Hospital*	Akron, Ohio		AF	1,188	620	17	5	5	7/1	1½	100
Children's Hospital	Cincinnati	J Freiberg	C					1		1	
Cincinnati General Hospital*[1]	Cincinnati	J Freiberg	AFS	240	4,405	2		5	7/1	2	
Jewish Hospital*	Cincinnati	J A Freiberg	A	508	93	1	1	1	1/1, 7/1	1	75
Cleveland Clinic Hospital[1]	Cleveland	J A Dickson	ACFS	507	13,378	4	1	7	7/1	3	135
Mount Sinai Hospital*[1]	Cleveland	R S Reich	AF	1,168	2,057	5		1	7/1	1½	100
St Luke's Hospital*	Cleveland	T A Willis	AFS	1,026	2,389	18	4	2	6/25	2	60
University Hospitals*[1]	Cleveland	M Harbin	ACFS	562	2,980	5		2	7/1	3	25
Children's Hospital	Columbus Ohio	F H Wilson	C	467	3,904			2	Varies	1	100
Mount Carmel Hospital*[1]	Columbus, Ohio	F H Wilson	AFCS	1,251	1,254	9	2	1	1/1	3	135
White Cross Hospital*	Columbus Ohio	J D Wilson	A	954	200	12	3	3	7/1	1	100
Elyria Memorial Hospital	Elyria, Ohio		C							1	
St Vincent's Hospital*[1]	Toledo, Ohio	A L Bershon	ACFS	802	106	24	12	2	7/1	3	
Youngstown Hospital*[1]	Youngstown Ohio	R R Morrall	AFS	1,021	1,298	20	9	2	7/1	2	75
Bone and Joint Hospital McBride Clinic	Oklahoma City	F D McBride	A	2,930	37,080	15		5	1/1	1	150
St Anthony Hospital*	Oklahoma City	W K West	A	1,092	648	11	4	1	1/1	1	75
University Hospitals*	Oklahoma City	D H O'Donoghue	ACFS	787	7,390	10	3	4	7/1	3	35
Emanuel Hospital*[1]	Portland, Ore	L Noall	AF	1,715		21	6	3	7/1	1½	75
Shriners Hospital for Crippled Children[1]	Portland, Ore	L S Lucas	C	392	2,714	1		2	7/1	1	75
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore	L S Lucas	AFS	505	5,595	29	24	7	7/1	2	75
State Hospital for Crippled Children	Elizabethtown, Pa	T Outland	C	249	2,276	1		2	6/1, 10/1	1	192.50
Hamot Hospital*[1]	Erie Pa	C W Fortune	AF	1,197	226	19	6	2	1/1	1½	150
Children's Hospital of Philadelphia[1]	Philadelphia	J T Nicholson	C	171	2,042			2		1	
Graduate Hospital of the University of Pennsylvania*	Philadelphia	J Nicholson	AS	126	1,421	1	1		7/1	1½	
Hahnemann Hospital*[1]	Philadelphia	F O Geckeler	AFS	744	5,986	8	1	4	9/1	2	50
Hospital of the University of Pennsylvania*[1]	Philadelphia	P C Colonna	ACFS	622	5,383	7	5	7	Varies	3	
Jefferson Medical College Hospital*	Philadelphia	J R Martin	AFS	554	4,933	8	1	3		2	
Philadelphia General Hospital*[1]	Philadelphia	J R Moore	ACFS	747	10,818	88		5	7/1	3	75
Shriners Hospital for Crippled Children[1]	Philadelphia	J R Moore	C	219	2,498	1		3	7/1	1	50
Temple University Hospital*[1]	Philadelphia	J R Moore	AFS	1,064	3,481	20	5	6	7/1	2	50
Allegheny General Hospital*	Pittsburgh	P B Steele	ACFS	960	1,854	11	4	3	7/15	3	100
Pittsburgh Medical Center[1,60]	Pittsburgh	W O Markell J S Donaldson	ACFS	609	5,264	1	1	1	7/1	3	41 67
St Francis Hospital*	Pittsburgh	C C Yount	A		287	2		1	7/1	1	100
Reading Hospital*[1]	Reading, Pa	E J Morrissey	AF	673	1,028	16	11	1	7/1	1½	100
Robert Packer Hospital*	Sayre, Pa	G Hammond	ACFS	793	6,505	7	4	3	7/1	3	150
Rhode Island Hospital*[1]	Providence, R I	H McCusker	ACFS	1,472	13,537	27	6	3	7/1	3	50
Roper Hospital*[1]	Charleston, S C	F A Hoshall	ACFS	770	3,400	8	1	3	7/1	3	50
Columbia Hospital*[1]	Columbia, S C	W A Boyd	AO	1,200	6,212	17	1	2	7/1	2	75
Greenville General Hospital*	Greenville, S C	J W White	AF	621	1,334	6	2	1	7/1	1½	100
Shriners Hospital for Crippled Children[1]	Greenville, S C	F H Stelling	C	318	2,168			3	7/1	1	100
Baroness Erlanger Hospital*[1]	Chattanooga Tenn	R O Robertson	AF	963	1,243	9	1	2	7/1	1½	150
Willis C Campbell Clinic Hospital	Memphis Tenn	J S Speed	ACFS	1,974	16,525	17		12	1/1 7/1	3	50
Baylor University Hospital*[1]	Dallas, Texas	F L Butte	A	1,382	546	18	5	2	7/1	1	50
Parkland Hospital*[1]	Dallas, Texas	P M Girard	F	500	3,310	12	4	2	7/1	½	50
Texas Scottish Rite Hospital for Crippled Children	Dallas, Texas	B Carrell	C	605	5,311			3	7/1	1	75
Harris Hospital*[1]	Fort Worth, Texas	C F Clayton	AF	655	21	5	2	1	7/1	1½	100
University of Texas Medical Branch Hospitals John Sealy*	Galveston, Texas	G W N Eggers	AFS	472	5,437	6		3	7/1	2	75
Hermann Hospital	Houston, Texas	E T Smith	AFO	612	926	3		1		2½	50
Jefferson Davis Hospital*[1]	Houston, Texas	M E De Bakey	F	691	3,985	21	6	1	7/1	½	50
St Joseph's Infirmary*	Houston Texas	J B Foster	AF	470	122	1		1	1/1	1½	150

Numerical and other references will be found on page 1215

15 ORTHOPEDIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Type of Training 14	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Scott and White Hospital*1	Temple Texa	H B Macey	AF	484		1		1		1½	50
St Mark s Hospital*1 1	Salt Lake City	P A Pemberton	C	592	677	1		1	1/1	1	100
Salt Lake County General Hospital*1	Salt Lake City	P B Price	FS	201	1,512	15	4	1	7/1	1	50
University of Virginia Hospital*1	Charlottesville Va	C Frankel	ACFS	627	4 088	4	2	3		3	41 67
Crippled Children s Hospital1	Richmond Va	W T Graham	C	311		1	1	2	7/1	1	
Medical College of Virginia Hospital Division*1	Richmond Va	H P Mauck	AFS	1 009	3 757	18	4	6		2	
Children s Orthopedic Hospital	Seattle	J F LeCocq	C	542	6,187	1	1	3	7/1	1	90
King County Hospital Unit No 1—(Harborview)*1	Seattle	R Anderson and L O McLemore	AF	962	4 846	42	19	1	7/1	1½	90
Providence Hospital*1	Seattle	I O McLemore	A	623		8	1	1	1/1 7/1	1	100
Swedish Hospital*1	Seattle	J LeCocq	AF	1,203		1		1		1½	100
Shriners Hospital for Crippled Children	Spokane Wash	N R Brown	C	142	938			1	7/1	1	
Charleston General Hospital*1	Charleston W Va	C Miyakawa	AF	837	6,533	8	1	2	7/1	1½	100
St Mary s Hospital*	Huntington W Va	F Scott	AF	1 862	667	6	3	1	7/1	1½	100
Morris Memorial Hospital	Milton W Va	F A Scott	C	662	40	9		2	Varies	1	150
State of Wisconsin General Hospital*1	Madison Wis	R F Burns	ACFS	1 481	5 822	34	18	4	1/1 7/1	3	25
Columbia Hospital*1	Milwaukee	H C Schumm	AFS	606		1	1	4	7/1	2	75
Milwaukee Childrens Hospital	Milwaukee		C							1	
Shriners Hospital for Crippled Children	Honolulu Hawaii	J W White	C	148	1,919			1	1/1	1	

16 OTOLARYNGOLOGY

The following services are approved by the Council and the American Board of Otolaryngology Residencies in this specialty have been approved without specifying the number of years for which they have been accredited The Board will give appropriate credit for training in these hospitals on an individual basis.

Hospitals 152 Assistant Residencies and Residencies 422

Name of Hospital	Location	Chief of Service	Inpatient Visits	Outpatient Visits	Asst Res and Residencies Offered *	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army							
Letterman General Hospital*	San Francisco	W A Weller	821	7,523	3	1/1 7/1	n
Fitzsimmons General Hospital*	Denver	A J Vadala	634	12 411	2	1/1, 7/1	n
Army Medical Center*1-	Washington D C	V J Erkenbeck	707	23 614	8	7/1	n
Brooke Army Medical Center*14	San Antonio Texas	H S Murphey	981	10 162	5	7/1	n
United States Navy							
U S Naval Hospital*	Long Beach Calif		1 020	5 189			
U S Naval Hospital*	Oakland Calif	P Northington	912	1 636	2		n
U S Naval Hospital*	San Diego Calif	L E Wible	1,5 6	9 107	1		n
U S Naval Hospital*1	Bethesda Md	A J Delaney	4 629	3 086	5	Varies	n
U S Naval Hospital*	Philadelphia	F Harbert	1 096	10 100	5	1/1, 7/1	n
Veterans Administration							
Veterans Admin Center*1	Los Angeles	C S Mumma	757	2,113	3	7/1	n
Veterans Admin Hospital	San Francisco	W W Work	451	3 001	3	7/1	n
Veterans Admin Hospital*1	Van Nuys Calif	S Kaplan	916	2,198	2	1/1, 7/1	n
Veterans Admin Hospital 1	Fort Logan Colo	C W Whistler	65				n
†Veterans Admin Hospital	Chamblee Ga	J Brown	225	943	2	7/1	n
Veterans Admin Hospital	Hines Ill	F L Lederer	1 387		7	1/1 7/1	n
Veterans Admin Center 1	Wadsworth Kan	H A Knauff	666		1	1/1 7/1	n
†Veterans Admin Hospital 1	Louisville Ky	C Uhde	1,502	8 855	3		n
†Veterans Admin Hospital 1	New Orleans	E G Walls	380	1 036	2	7/1	n
Veterans Admin Hospital (West Roxbury)	Boston	J Trakas	412	2,000		7/1	n
Veterans Admin. Hospital 1	Framingham Mass	E H Tomb	541	1,246	1	7/1	n
Veterans Admin Hospital 1 62	Minneapolis	H Hanson	3 458	923	6	Varies	n
Veterans Admin. Hospital 1	Jefferson Bks Mo	E Lyman	431		3	7/1	n
Veterans Admin Hospital 1	New York City	D H Jones	955	4 715	6	1/1 7/1	n
Veterans Admin. Hospital 1	Cleveland	R W Machamer	835	918	2	7/1	n
Veterans Admin Hospital	Portland Ore	G L Boyden	236	932	1	1/1, 7/1	n
Veterans Admin Hospital	Aspinwall Pa	K. H Hinderer	592		4	7/1	n
†Veterans Admin Hospital	Memphis Tenn	S D Maiden	972	1 265	3	7/1	n
†Veterans Admin Hospital 1	Dallas Texas	R N Tindall	256		2	1/1	n
Veterans Admin Center	Milwaukee	F Raine	333	1,480	4	7/1	n
Nonfederal							
Jefferson Hillman Hospital*1	Birmingham Ala	G Fisher	1 122	7 335	4	7/1	50
†Arkansas Baptist Hospital*	Little Rock Ark	K W Cosgrove	1 132		1		100
Childrens Hospital*	Los Angeles	A H Miller	1 010	2 806	1	1/1 7/1	147.33
Los Angeles County Hospital*1	Los Angeles	J M Brown	1 862	10 446	4	Varies	165
White Memorial Hospital*	Los Angeles	B N Colver	1 077	9 807	3	7/1	120
San Diego County General Hospital*1	San Diego Calif	J W Hedrickson	207	3 648	1	7/1	150
Children s Hospital*1	San Francisco	R. Martin	1,216	1,342	1	7/1	50
San Francisco Hospital*1	San Francisco				1	7/1	175
Stanford University Hospital	San Francisco	R C McNaught	746	8 795	3	7/1	50
University of California Hospital*1	San Francisco	L F Morrison	550	8 390	2	7/1	75
University of Colorado Medical Center							
Colorado General Hospital*	Denver	H L. Hickey	284	4 619	2	7/1	75
Denver General Hospital*1	Denver	H L Hickey	309	116	1	7/1	75
Grace-New Haven Community Hospital							
New Haven Unit (University Service)*1	New Haven Conn	N Canfield	827	4,378	2	7/1	40
Episcopal Eye Ear and Throat Hospital1	Washington D C	D B Moffett	6,566	49 942	4	1/1	
Gallinger Municipal Hospital*1	Washington D C	S Burtoff	1 024	5 346	3	7/1	100
Grady Memorial Hospital*1	Atlanta Ga	W C Warren	564	9,169	1	7/1	20
Cook County Hospital*1	Chicago	R A. Kerwin	2,350	28 815	5	1/1 7/1	32
Illinois Eye and Ear Infirmary1	Chicago	F L. Lederer	1,998	35,254	10	7/1	
Mercy Hospital Loyola University Clinics*1	Chicago	R W Kerwin	256	1,277	1	7/1	25
Michael Reese Hospital*1	Chicago	N Leshin	1 687	2,898	1	7/1	25
Presbyterian Hospital*	Chicago	S A Friedberg	901	8 778	2		25
Research and Educational Hospitals*1	Chicago	F E Lederer	746	12 383	2	7/1	55
St Luke s Hospital*1	Chicago	W Theobald	1 040		1	7/1	25
University of Chicago Clinics*	Chicago	J R Lindsay	508	9 162	4	7/1	25

Numerical and other references will be found on page 1215

16 OTOLARYNGOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatient Visits	Outpatient Visits	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Wesley Memorial Hospital★[1]	Chicago	G Shambaugh	1,267		1	7/1	25
Indianapolis General Hospital★[1]	Indianapolis	R N Dearmin	964	6,478	2	7/1	80
Indiana University Medical Center★[1]	Indianapolis	C H McCaskey	522	2,134	3	7/1	68 33
University *Hospitals*★[1]	Iowa City	D M Lierle	2,397	6,071	12		
University of Kansas Medical Center★	Kansas City, Kan	S Roberts	739	8,791	2	7/1	100
Louisville General Hospital★[1]	Louisville, Ky	J S Baumgardner	573	5,034	2	7/1	50
Charity Hospital of Louisiana★[1]	New Orleans	J H Hanley	1,993	22,141		7/1	25
Eye, Ear, Nose and Throat Hospital[1]	New Orleans	F E LeJeune	8,283	32,501	7	7/1	
Touro Infirmary★[1]	New Orleans	H L Kearney	1,162	2,549	1	7/1	
Baltimore Eye, Ear and Throat Charity Hospital[1]	Baltimore	M L Breitstein	2,936	7,532	3	7/1	10
Johns Hopkins Hospital★	Baltimore	S J Crowe	1,220	12,360	4	7/1	41 66
†South Baltimore General Hospital★[1]	Baltimore	S L Fox	650	1,356	2	7/1	90
University Hospital★[1]	Baltimore	E A Looper	713	8,524	1	7/1	75
Beth Israel Hospital★	Boston	G B Fred	783	3,003	1	7/1	41 66
Boston City Hospital★[1]	Boston	E J Monahan	2,612	16,246	6	8/1, 7/1	90
Lahey Clinic	Boston	W B Hoover	757	10,712	2	7/1	125
†Massachusetts Eye and Ear Infirmary	Boston	L A Schall	3,343	28,853	9		40
Massachusetts Memorial Hospital★[1]	Boston	L F Johnson	391	684	1	7/1	50
University Hospital★[1]	Ann Arbor, Mich	A C Furstenberg	863	8,930	8	7/1	130 00
Grace Hospital★[1]	Detroit		1,613	1,336	1	7/1	75
Harper Hospital★[1]	Detroit	R H Pino	3,036	2,429	3	7/1	110
Henry Ford Hospital★[1]	Detroit	J L Dill	1,175	20 318	4	7/1	200
Wayne County General Hospital and Infirmary★[1]	Eloise Mich	F T May					
University of Minnesota Hospitals★[1] [63]	Minneapolis	L R Boies	265	2,019	9	7/1	125
Mayo Foundation	*Rochester, Minn*	*H I Lillie*			*12*	Varies	92.50
Kansas City General Hospital No 1★	Kansas City, Mo	N E Lacy	467	3,957	1	7/1	50
Barnes Hospital★[1]	St Louis	T E Walsh	3,160	14,334	10	7/1	10
Homer G Phillips Hospital★[1]	St Louis	L W Dean	399	3,327	1		98
Jewish Hospital★[1]	St Louis	M Fineberg	872	675	1	7/1	100
St Louis City Hospital★[1]	St Louis	R E Votaw and W D Harkins	450	4,792	1	7/1	
St Mary's Group of Hospitals★[1]	St Louis	B J McMahon	924	5,161	3	7/1	35
Jersey City Hospital★[1]	Jersey City, N J	M G Borrone	1,080	8,196	5	Varies	35
Newark City Hospital★	*Newark, N J*	*H Orton*			*1*		60
Newark Eye and Ear Infirmary	Newark, N J		1,660	5,175	2	1/1, 7/1	
Albany Hospital★[1]	Albany, N Y	B M Volk	767	1,416	2	7/1	41 66
Brooklyn Eye and Ear Hospital[1]	Brooklyn	J P Baker	6,615	46,924	6	1/1, 7/1	
Jewish Hospital★[1]	Brooklyn	K Kaplan	262	2,773	1	7/1	30
Kings County Hospital★[1]	Brooklyn	H Christensen	1,974	8,264	2	7/1	80
Long Island College Hospital★[1]	Brooklyn	C R Weeth	709	2,819	2	7/1	50
Buffalo General *Hospital*★	Buffalo	*H Bozer*	829	2,248	8	7/1	25
Edward J Meyer Memorial Hospital★[1]	Buffalo	M L Gerstner	162	2,220	2	7/1	100
Queens General Hospital★[1]	Jamaica, N Y	M S Bender	694	*4,229*	2	7/1	
New Rochelle Hospital★§	New Rochelle N Y	H N Stevenson			1	7/1	125
Bellevue Hospital Div III—New York University★[1]	New York City						
†Beth Israel Hospital	New York City	M L Som	637	3,129	1	7/1	50
Flower and Fifth Avenue Hospitals★[1]	New York City	J A W Hetrick	102	2,254	2	7/1	
Harlem Eye and Ear Hospital[1]	New York City	E Grabscheid	1,954	16,232	4	1/1, 7/1	
Harlem Hospital★[1]	New York City	H J Burman	612	7,632	1	7/1	80
Lenox *Hill* Hospital★[1]	New York *City*	G F *Oberrender* and W I Galland	1,188	8,611	*1*	Varies	*50*
Manhattan Eye, Ear and Throat Hospital[1]	New York City	M F Jones	9,072	56,910	8	10/1	
Metropolitan Hospital★[1]	New York City	I A W Hetrick	850	4,672	2	7/1	80
Morrisania City Hospital★[1]	New York City	G B Gilmore	617	3,503	2	7/1	80
Mount Sinai *Hospital*★	*New York City*	*R Kramer*	578	8,667	2	7/1	50
New York City Hospital★[1]	New York City	O C Risch	500	5,473	2	7/1	80
New York Eye and Ear Infirmary[1]	New York City	S Craig	8,165	41,703	10	10/1	
New York Hospital★[1]	New York City	J Moore	1,209	14,040	3	7/1	25
New York Polyclinic Medical School and Hospital★	New York City	S J Kopetzky	625	7,140	3	7/1	50
Presbyterian Hospital★[1]	New York City	F P Fowler, Jr	1,074	21,803	7	1/1, 7/1	41 66
Roosevelt Hospital★[1]	New York City	R O Grove	630	3,372	2	7/1	25
St Luke's Hospital★	New York City	V C McCuaig	1,369	9,963	3	1/1, 7/1	50
University *Hospital*★	New York *City*	J F *Daly*	858	5,655	8	7/1	80
Rochester General Hospital★[1]	Rochester, N Y	E J Avery	1,262	1,557	1	7/1	55
Strong Memorial Rochester Municipal Hospitals★[1]	Rochester, N Y	O A Heatly	1,203	3,965	3	7/1	41 66
Sea View Hospital[1]	Staten Island, N Y	J Gilbert	6,139		2	7/1	130
Syracuse University Medical Center Hospitals★	Syracuse, N Y	G D Hoople	1,007	290	1	7/1	
Grasslands Hospital★[1]	*Valhalla, N Y*	J R Emery	366	1,973	1	7/1	125
Duke Hospital★[1]	Durham, N C	W W Eagle	491	2,711		7/1	83.33
North Carolina Baptist Hospital★[1]	Winston Salem, N C	J A Harrill	592	2,776	8	7/1	41 66
Cincinnati General Hospital★[1]	Cincinnati	H *Goodyear*	704	7,222	2	7/1	
City Hospital★[1]	Cleveland	C W Engler	732	5,660	2	7/1	70
Cleveland Clinic Hospital[1]	Cleveland	H E Harris	670	15,224	4	7/1	135
St Luke's Hospital★[1]	Cleveland	T W Thoburn	2,005	1,465	2	6/25	90
University *Hospitals*★[1]	*Cleveland*	O C R Jackson	2,002	3 942	3	7/1	25
Ohio State University Hospital★[1]	Columbus, Ohio	H G Beatty	353	2,578	2	7/1	50
University Hospitals★[1]	Oklahoma City	C McHenry	336	1,824	2	7/1	35
University of Oregon Medical School *Hospitals and Clinics*★[1]	Portland, Ore	G L Boyden	630	5,100	3	7/1	75
George F Geisinger Memorial Hospital★	Danville, Pa	F W *Davison*	942	8,550	2	7/1	75
Graduate Hospital of the Univ of Pennsylvania★	Philadelphia	E H Campbell	1,606	3,292	4	7/1	
Hospital of the University of Pennsylvania★[1]	Philadelphia	H P Schenck	1,909	6,103	6	Varies	50
Jefferson Medical College *Hospital*★	*Philadelphia*	L H Clerf	2,362	13,142	4		
Pennsylvania Hospital★	Philadelphia	E H Campbell	619	3,044	1		20
Philadelphia General Hospital★[1]	Philadelphia	L K Elfman	198	4,308		7/1	75
Temple University Hospital★[1]	Philadelphia	M S Ersner	1,871	882	2	7/1	50
Mercy Hospital★[1]	*Pittsburgh*	J A Perrone	1,873	3,023	4	7/1	100
Pittsburgh Medical Center[60]	Pittsburgh	T B McCollough	*4,521*	*7,207*	*3*	7/1	41 66
Robert Packer Hospital★	Sayre, Pa	H D Rentschler	1,034	5,391	1	7/1	150
Knoxville General *Hospital*★	Knoxville, Tenn	H E Christenberry	333	843		7/1	95
†*John Gaston* Hospital★	Memphis, Tenn	O D Blassingame	1,018	6,342	2	7/1	
Nashville General Hospital★§	*Nashville, Tenn*	N B Morris	576	4,678	1	7/1	52.50

Numerical and other references will be found on page 1215

16 OTOLARYNGOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Visits	Outpatient Visits	Asst Res and Residencies Offered*	Beginning of Service (1950)	Beginning Stipend (Month)
Parkland Hospital*[1]	Dallas Texas	J D Singleton	111	2 324	1	7/1	50
University of Texas Medical Branch Hospitals	Galveston Texas	J M Robinson	443	6 238	8	7/1 9/1	50
John Sealy Hospital*							
Jefferson Davis Hospital*[1]	Houston Texas	C C Cody	395	8 110	1	7/1	25
University of Virginia Hospital*	Charlottesville Va	F Woodward	1,276	5 704	2		150
Medical College of Virginia Hospital Division*	Richmond Va	P N Pastore	749	3 411	3		
†Gill Memorial Eye Ear and Throat Hospital	Roanoke Va	F G Gill	1 072	3 556	8	1/1	100
King County Hospital Unit No 1 (Harborview)*[1]	Seattle	J A Weber	292	1 607		7/1	90
State of Wisconsin General Hospital*[1]	Madison Wis	W Nesbit	1,281	5,230	1	1/1 7/1	25
St Joseph's Hospital*[1]‡	Marshfield Wis	L A Copps	780		1		
Milwaukee County Hospital*[1]	Milwaukee	J P Wild	315	1,895	2	7/1	175

17 PATHOLOGY

The following services are approved by the Council and the American Board of Pathology
Hospitals 417 Assistant Residencies and Residencies 1 001

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Surgical Specimens	Number Examined Microscopically	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital*	San Francisco	K F Ernst	12 465	4,307	3 656	185	6	1/1 7/1	8	n
Fitzsimmons General Hospital*	Denver	H W Mahon	12,762	8 395	3,395	198	8	1/1 7/1	3	n
Army Institute of Pathology	Washington D C	H F Smetana		27,586	27,580	12,600	1		1[a]	n
Army Medical Center*[13]	Washington D C	V H Cornell	11 093	4 016	4,506	214	9	7/1	8	n
Brooke Army Medical Center*[14]	San Antonio Texas	C J Lind Jr	19,284	5 856	5,856	344	6	7/1	8	n
Gorgas Hospital*	Ancon C Z.	N W Elton	11 137	8,276	8 970	196	13	7/1	3	n
United States Navy										
U S Naval Hospital*	Long Beach Calif	J L Zundell	18 345	4 665	4 665	816	2	Varies	8	n
U S Naval Hospital*	Oakland Calif	J S Shaver	12,815	2 212	2 212	226	8	Varies	8	n
U S Naval Hospital*	San Diego Calif	A W Eaton	21 102	4 099	4 099	266	1		8	n
U S Naval Hospital*[1]	Bethesda Md	W M Silliphant	15 90	4,096	4,998	201	10	Varies	3	n
U S Naval Hospital*[1]	St Albans N Y	D J Cracovaner	8,928	2,104	2 104	173	4		1	n
U S Naval Hospital*	Philadelphia	R H Walker	14,822	2 674	2 674	286	2	1/1 7/1	8	n
United States Public Health Service										
U S Marine Hospital*[1]	New Orleans	L L Swan	6 553	2 403	2 112	70	2	7/1	2[p]	n
U S Marine Hospital*[1]	Baltimore	C H B nford	7,246	3 062	3 062	186	8	7/1	3	n
National Institute of Health	Bethesda Md								1[a]	
U S Marine Hospital*[1]	Stapleton L I N Y	L H Sophian	11 336	3 406	3 406	110	2	7/1	2[p]	n
U S Marine Hospital*	Seattle	T L Perrin	6 071	1,801	1 324	125	1	7/1	2[p]	n
Veterans Administration										
Veterans Admin Center*[1]	Los Angeles	L. Kaplan	16 954	5 236	5,236	688	7	1/1 7/1	3	n
Veterans Admin Hospital	San Francisco	H D Moon	4,309	2 419	2,154	108	2	7/1	3[p]	n
Veterans Admin Hospital*[1]	Van Nuys Calif	B E Konwaler	10 680	2,907	2,967	257	2	1/1 7/1	8	n
Veterans Admin Hospital[1]	Washington D C	J S Howe	9 640	1 774	1 670	106	4	7/1	3	n
Veterans Admin Hospital[1]	Chamblee Ga	L N Foster	7,390	2,216	2,216	182	4	7/1	4[p]	n
Veterans Admin Hospital	Hines Ill.	W L McNamara	29 634	5 402	5 402	611	2	1/1 7/1	3	n
Veterans Admin Hospital[1]	Indianapolis	D Rosenbaum and H J Sacks	8 422	1,296	1,296	133		1/1 7/1	2[p]	n
Veterans Admin Center	Des Moines Iowa	K R Cross	6 604	1 895	1 895	148	2	7/1	3[p]	n
Veterans Admin Center[1]	Wadsworth Kan	C J Weber	8 503	2 861	2 310	263	8	1/1 7/1	4[p]	n
Veterans Admin Hospital[1]	Louisville Ky	H Gordon	9 117	4 128	4 125	175	2		3[p]	n
Veterans Admin Hospital[1]	New Orleans	J Ziskind	5 455	2 005	2 005	136	2	7/1	2	n
Veterans Admin Hospital	Fort Howard Md	W B Van DeCrift	3 987	805	799	145	2	7/1	2[p]	n
Veterans Admin Hospital	Boston	J D Houghton	5,252	1,875	1 734	134	2	1/1 7/1	2[p]	n
Veterans Admin Hospital[1]	Framingham Mass	R Fienberg	6 927	8 000	8 000	131	8	7/1	2[p]	n
Veterans Admin Hospital	Dearborn Mich	H J Linn	7,903	3,225	3 220	239	2	7/1	2[p]	n
Veterans Admin Hospital	Minneapolis	J I Coe and E T Bell	11 125	4 482	4 476	291	8	7/1	4[p]	n
Veterans Admin Hospital[1]	Jefferson Bks Mo	M Kannerstein	8 957	2,920	2 422	247	4	7/1	4[p]	n
Veterans Admin Hospital[1]	New York City	H M Zimmermann	10 598	4 760	4 760	359	5	7/1	4[p]	n
Veterans Admin Hospital[1]	Staten Island N Y	O Auerbach	16,943	2 914	2,914	201	8	7/1	4[p]	n
Veterans Admin Hospital	Oteen N C	S Bornstein	4,374	994	992	133		1/1 7/1	1[p]	n
Veterans Admin Hospital[1]	Cleveland	J R Kahn	9 370	4 171	3,842	242	4	7/1	4[p]	n
Veterans Admin Hospital	Dayton Ohio	C Raven	5 938	1 684		207	1	7/1	3[p]	n
Veterans Admin Hospital	Aspinwall Pa	G Brilmyer	9 125	1 481	1 481	313	3	7/1	4[p]	n
Veterans Admin Hospital	Memphis Tenn	D J Greiner	12,551	8 806	3 836	175	4	7/1	4[p]	n
Veterans Admin Hospital	Nashville Tenn	S H Auerbach	7 076	1 603	1,532	95	1	7/1	1[p]	n
Veterans Admin Hospital[1]	Dallas Texas	J Furth	3,945	1,368	1 267	107	1	1/1	3[p]	n
Veterans Admin Hospital[1]	McKinney Texas	O J Wollenman Jr	5 472	1 658	1 058	133	2	7/1	2[p]	n
Veterans Admin Hospital[1]	Salt Lake City	E J Fichwald	3 147	1 170	1 015	92	1	7/1	1[p]	n
Veterans Admin Hospital[1]	Richmond Va	J R Kritz	6 831	2 235	2 218	143	4	7/1	2[p]	n
Veterans Admin Center[1]	Milwaukee	J M Lubitz	7 603	2,254	1 072	264	4	7/1	4[p]	n
Nonfederal										
Baptist Hospital[1]	Birmingham Ala	A E Casey	8 353	4 069	4 061	70	8	7/1	4[p]	200
Jefferson Hillman Hospital*[1]	Birmingham Ala	R Baker	20 324	4 612	4 612	422	4	7/1	4[p]	50
Employees Hospital of the Tennessee Coal Iron and Railroad Company*	Fairfield Ala	J A Cunningham	10,314	1,688	1 682	121	2	7/1	1[p]	225
University Hospital*[1]	Little Rock Ark	A Nettleship	4 070	5 165	5 165	141	5	7/1	3	75
Kern General Hospital	Bakersfield Calif		10 423	2,840	1 840	333	2	7/1	4[p]	325
Herrick Memorial Hospital*[1]	Berkeley Calif.	H R Fishback	8 035	2 656	1 654	155	1	7/1	2[p]	50
Glendale Sanitarium and Hospital*	Glendale Calif	A F Brown	7,228	2 112	1 500	136	1	7/1	2[p]	160
Loma Linda Sanitarium and Hospital*	Loma Linda Calif	C S Small	4,892	8 418	8,350	74	6	7/1	3[p]	190
California Hospital*	Los Angeles	A Wright	14 762	6 024	4 803	196	1	7/1	3[p]	200
Cedars of Lebanon Hospital*[1]	Los Angeles	N Friedman	11 406	5,558	4 639	146	2	7/1	3[p]	75
Children's Hospital*	Los Angeles	R E Knutti	5 950	470	469	144	3	1/1, 7/1	1[p]	100

Numerical and other references will be found on page 1215

17 PATHOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated [6]	Surgical Specimens	Number Examined Microscopically	Autopsies	Asst Res and Residencies Offered [8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Hospital of the Good Samaritan★[1]	Los Angeles	R W Hammack	12,173	4 948	3,072	146	1	7/1	1p	150
Los Angeles County Hospital★	Los Angeles	E M Butt	64,952	11,982	10,632	2,234	4		3p	165
Queen of Angels Hospital★	Los Angeles	A R Camero	18,072	5,222	4,083	233	1	7/1	3p	100
St Vincent's Hospital★	Los Angeles	F Kahler	9,083	3,782	2,857	92	1	7/1	2p	100
White Memorial Hospital★[1]	Los Angeles	O B Pratt	9,216	4,837	3,213	146	3	7/1	3	120
Highland Alameda County Hospital★[1]	Oakland, Calif	R J Parsons	11,374	2,820	2,475	350	3		3	135
Permanente Foundation Hospital★[1]	Oakland, Calif	M Friedman	9,282	5,207	3,473	133	1		3	125
Collis P and Howard Huntington Memorial Hospital★	Pasadena, Calif	A G Foord	10,305	7,590	6,458	248	4	7/1	3	240
Mercy Hospital★	San Diego, Calif	D A DeSanto	13,877	4,854	4,466	111	1	7/1	1	150
San Diego County General Hospital★	San Diego, Calif	K Fowler	8,851	2,178	1,839	333	1	7/1	4p	125
French Hospital★[1]	San Francisco	G Watson	6,452	2 892	2 308	79	1	7/1	1	150
Mount Zion Hospital★[1]	San Francisco	G R Biskind	5,725	2,155	1,600	124	2		3p	50
St Luke's Hospital★	San Francisco	G A Walker	7,951	8,304	1,929	109	1	7/1	2p	100
San Francisco Hospital★[1]	San Francisco		21,058	6,617	6 617	396	6	7/1		175
Stanford University Hospital★[1]	San Francisco	A J Cox	11,369	2 783	2,783	164	3	7/1	3	50
University of California Hospital★[1]	San Francisco	J F Rinehart	8,141	4,035	4,035	150	2	7/1	1	
Santa Clara County Hospital★	San Jose, Calif	D J Stump	6,349	1,864	1,704	204	3	7/1	3p	235
Santa Barbara Cottage Hospital★[1]	Santa Barbara Calif	F L Benjamin	6 957	3,041	2,184	85	1	7/1	3	100
Glockner Penrose Hospital★[38]	Colorado Spgs, Colo	F F Geever	4,892	1,913	1,152	55	1	7/1	2p	150
Children's Hospital[1]	Denver	H D Palmer	7,075	2,154	2 091	107	2	7/1	3p	50
Presbyterian Hospital★	Denver	A F Lubchenco	7,368	3,321	979	92	1	7/1	1*	75
St Luke's Hospital★	Denver	W C Black	11,448	7,383	4,908	149	1	7/1	3p	40
University of Colorado Medical Center										
Colorado General Hospital★	Denver	I B McNaught	5,187	2,569	2,564	270	9	7/1	4p	95
Denver General Hospital★[1][9]	Denver	A Lapi	9 035	1,996	1,995	491	4	7/1	4p	75
Colorado State Hospital[1]	Pueblo, Colo	M Gallavan	1,107	750	717	222	3	7/1	1	275
Bridgeport Hospital★	Bridgeport, Conn	I B Akerson	18 697	2,896	2,696	168	1	1/1	3	100
Hartford Hospital★[1]	Hartford, Conn	R F Kendall	25,871	10,022	8,888	384	3	7/1	3	50
St Francis Hospital★	Hartford, Conn	L P Hastings	17,928	4 900	4,700	183	3	1/1 7/1	3p	75
New Britain General Hospital★[1]	New Britain Conn	P D Rosahn	7,592	2 359	1,130	135	2	7/1	3	75
Grace New Haven Community Hospital New Haven Unit (University Service)★[1]	New Haven, Conn	M C Winternitz	11 570	4,760	4 675	353	2	7/1	3	40
Hospital of St Raphael★[1]	New Haven, Conn	R R Nesbit	14 610	2,781	2,451	115	2	7/1	2p	75
Norwalk Hospital★	Norwalk, Conn	R N Barnett	7,955	2,161	2,161	122	2	7/1	2p	155
Stamford Hospital★[1]	Stamford, Conn	J G Snavely	7 275	2,403	2,013	150	1	7/1	3p	150
Waterbury Hospital★[1]	Waterbury, Conn	J O Collins	10,720	3,103	2,705	153	1	7/1	2p	100
Delaware Hospital★	Wilmington, Del	J W Howard	10 201	4,083	4,751	189	1	7/1	3	110
Memorial Hospital★[1]	Wilmington, Del	J W Hooker	5,873	3,163	3,163	146	2	7/1	2	110
Children's Hospital	Washington, D C	F C Rice	8 837	400	276	109	2	7/1	1	50
Doctor's Hospital★	Washington D C	O B Hunter	9,482	5,231	4,790	137	1	7/1	1	100
Gallinger Municipal Hospital★[1]	Washington, D C	M W Alden	21 006	3,053	3,053	564	1	7/1	3	100
Garfield Memorial Hospital★[1]	Washington D C	E C Rice	9,686	3,848	2 545	176			3	
Georgetown University Hospital★[1]	Washington D C	C Geschickter	10,555	2 881	2,681	176	14	7/1	3	75
George Washington University Hospital★[1]	Washington D C	T M Peery	11,244	4,483	4,384	150	2	7/1	3	50
Providence Hospital★	Washington D C	H H Leffler	11,219	8,470	8,302	220	1	7/1	3	75
Sibley Memorial Hospital★[1]	Washington, D C	O B Hunter	11 223	3,845	3,518	213	1	7/1		100
St Vincent's Hospital★	Jacksonville, Fla	N A Murray	12,659	3,558	3,558	120	1	7/1	1	100
Jackson Memorial Hospital★	Miami, Fla	P R Rezek	17,596	6,030	4,107	322	3	7/1	3	60
Crawford W Long Memorial Hospital★	Atlanta, Ga	D Ayer	18,372	5,253	5,220	154	4	7/1	4p	75
Grady Memorial Hospital★[1]	Atlanta Ga	W Sheldon	17,670	5,830	5,830	510	3	7/1	3	20
University Hospital★	Augusta Ga	E R Pund and W J Shepeard	15,785	4,050	3,292	127	1	7/1	3	40
Emory University Hospital★	Emory University, Ga	W Sheldon	9 901	3,446	3 446	126	2	7/1	3	50
Alexian Brothers Hospital	Chicago	J P Simonds	4 986	728	728	91	1	1/1, 7/1	1p	125
Augustana Hospital★	Chicago	G Milles	8 042	3,521	2,493	171	2	4/1	3p	50
Children's Memorial Hospital[1]	Chicago	J P Simonds	4,594	290	290	108	1	1/1	1	79
City of Chicago Municipal Tuberculosis Sanitarium	Chicago	H C Sweany	1,133	709	845	128			1	
Cook County Hospital★[1]	Chicago	H Popper	73 302	9,770	8,301	1 389	5	1/1 7/1	4p	32
Englewood Hospital[53]	Chicago	G T Rich	6 073	1,525	1,310	65	1	7/1	1p	200
Grant Hospital★[1]	Chicago	C C Mason	7 501	4,718	8 211	140	1	7/1	2p	100
Illinois Masonic Hospital★[1]	Chicago	L S King	7 920	2,091	2,050	195	2	7/1	3p	50
Mercy Hospital Loyola University Clinics★[1]	Chicago	F D Stone	9,054	3,040	2 448	138	1	7/1	3	25
Michael Reese Hospital★[1]	Chicago	O Saphir	17,549	5,628	5,628	421	6	Varies	4p	25
Mount Sinai Hospital★	Chicago	I Davidsohn	10,243	4,082	3,262	192	4	7/1	4p	50
Norwegian American Hospital★[1]	Chicago	A Learner	7,736	2,061	1,498	93	1	7/1	1p	150
Northwestern University Medical Center										
Passavant Memorial Hospital★	Chicago	M Wheelock	7,450	2,150	2,150	97			3	
Wesley Memorial Hospital★[1]	Chicago	T C Laipply	15 958	4,611	4,611	222	4	7/1	4p	25
Presbyterian Hospital★	Chicago	G M Hass	12,925	5,129	5,129	246	5		3	50
Provident Hospital★	Chicago	J F Bowman	5,917	1 611	1,510	113	1	7/1	1	50
Ravenswood Hospital★[1]	Chicago	H I Brown	7,308	2,014	2 014	176	2	7/1	2p	60
Research & Educational Hospital★[1]	Chicago	G A Bennett	7,283	3,985	3,985	191	3		3	55
St Luke's Hospital★[1]	Chicago	E F Hirsch	17,137	7,638	6,000	333	4	1/1, 7/1	3	25
St Mary of Nazareth Hospital★	Chicago	E Thurston	9,580	3,161	2,732	158	1	7/1	2*	100
University of Chicago Clinics★	Chicago	P R Cannon	13,056	4,553	4,423	225	3	7/1	3	25
Evanston Hospital★	Evanston, Ill	J C McCarter	7,757	2,201	2,134	158	2	1/1	3	50
St Francis Hospital★	Evanston, Ill	J W Henry	11,855	2,477	2,440	209	2	7/1	3	75
Methodist Hospital of Central Illinois★	Peoria, Ill	D O Manshardt	7 898	5,411	3,795	73	1	7/1	2p	150
St Francis Hospital★[1]	Peoria, Ill	J E Kraus	15,015	5,214	2,786	247	1	7/1	3	100
St Anthony's Hospital★	Rockford, Ill	A R K Matthews	7,788	3,129	2,964	108	1	1/1	3p	160
St Joseph Hospital[1]	Fort Wayne, Ind	S M Rabson	9,442	2,840	2,330	99	2	1/1, 7/1	2p	125
Indianapolis General Hospital★[1]	Indianapolis	A Michaels	10,703	2 270	2,216	326	2	7/1	3	100
Indiana University Medical Center★[1]	Indianapolis	J L Arbogast	11,805	3,467	3 467	360	6	7/1	3	68 33
Methodist Hospital★[1]	Indianapolis	H M Banks	22,483	11,712	7,653	196	2	7/1	3	200
St Elizabeth Hospital★	La Fayette, Ind	J M McFadden	8,608	2,219	2,089	137	1	7/1	1	100
Ball Memorial Hospital★[1]	Muncie, Ind	L G Montgomery	9 022	5,231	4,789	160	1	7/1	4p	150
Memorial Hospital★[1][41]	South Bend, Ind	A S Giordano	8,305	7,825	6 890	120	2	7/1	3	150
Broadlawns Polk County Hospital★[1]	Des Moines, Iowa	F C Coleman	4,732	1,424	917	112		1/1, 7/1	1p	125
Iowa Methodist Hospital★[1]	Des Moines, Iowa	R F Birge	11,548	5,424	5,370	185	2	7/1	3	75
Mercy Hospital★[1]	Des Moines, Iowa	F C Coleman	10,031	2,122	2,122	126	2	7/1	3p	115
University Hospitals★[1]	Iowa City	E D Warner	20,585	4,721	4,721	343	7	7/1	3	50
University of Kansas Medical Center★	Kansas City, Kan		8,423	5,774	4,788	231	4	7/1	3	100
St Francis Hospital★	Wichita Kan	W P Callahan, Jr	15,465	8,049	8,049	147	2	7/1	3	125
Louisville General Hospital★[1]	Louisville, Ky	A J Miller	9,492	2,825	2,287	210	4	7/1	3	45
Charity Hospital of Louisiana★[1]	New Orleans	E Moss	50 605	18,359	13,859	1,001	13	7/1	4p	25
Hotel Dieu Sister's Hospital★[1]	New Orleans	R M Hartwell	11,530	5 480	5,430	147	3	7/1	4p	75
Southern Baptist Hospital★[1]	New Orleans	E H Lawson	13,833	6,768	6,768	127	3	7/1	3p	150

Numerical and other references will be found on page 1215

17 PATHOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated*	Surgical Specimens	Number Examined Microscopically	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Touro Infirmary★[1]	New Orleans	A J Hertzog	14,355	5 167	5 167	198	3	7/1	3	25
Shreveport Charity Hospital★	Shreveport La	W R Mathews	15 439	3 906	3 906	290	1	7/1	1	60
Eastern Maine General Hospital★[1]	Bangor Me	R Wadsworth	8,178	6 171	5 741	103	2	7/1	2p	50
Maine General Hospital★[1]	Portland Me	J F Porter	9 751	5 350	4 950	155	1	7/1	3	50
Baltimore City Hospitals★[1]	Baltimore	C G Warner	6 782	1 148	1 133	344	4	7/1	3	15
Johns Hopkins Hospital★[1]	Baltimore	A R Rich	18 753	4 963	4,963	518	4	7/1	3	41.66
Sinai Hospital★[1]	Baltimore	T Weinberg	10 103	4 202	4 202	185	2	7/1	3	25
Union Memorial Hospital★	Baltimore	W C Merkel	8 801	2 092	2 092	155	1	7/1	2p	20
University Hospital★[1]	Baltimore	H R Spencer	11 072	5 653	5 653	241		7/1	3*	75
Beverly Hospital★	Beverly Mass	D E Brown	5,299	1 332	1,332	122	1	7/1	3	50
Beth Israel Hospital★	Boston	M Schlesinger	5,909	3 254	3 254	146	3	1/1 7/1	3	41 66
Boston City Hospital★[1]	Boston	F Parker Jr	39 172	5 404	5 404	935	11	7/1	3	90
Boston Lying In Hospital★	Boston	A T Hertig	3 035	802	802	19	2	1/1	1p	75
Children's Hospital★[1]	Boston	S Farber	9 460	1 553	1,553	257	12	Varies		
Massachusetts General Hospital★	Boston								3	
Massachusetts Memorial Hospital★[1]	Boston	R Osgood	8 430	2 723	2 717	165	4	7/1	3	50
New England Deaconess Hospital	Boston	S Warren	7 700	8,566	8 566	145	8	7/1	3	100
Peter Bent Brigham Hospital★	Boston	O T Bailey	4 921	2 126	2 121	188		7/1	3	
St Elizabeth's Hospital★	Boston	F Parker Jr	9 461	2 424	2 261	99	2	7/1	1	75
Cambridge City Hospital★	Cambridge Mass	R Z Schulz	5 822	1 166	1 160	110	3	7/1	1	75
Mount Auburn Hospital★[1]	Cambridge Mass	H E MacMahon	7 056	2 303	2 363	119	1	7/1	1	100
Holyoke Hospital★[12]	Holyoke Mass	I S Grewal	3 740	7 670		31	2	7/1	2p	50
Lawrence General Hospital★[1]	Lawrence Mass	L S Jolliffe	6 054	1 519	1,510	112	2	7/1	1*	100
Lynn Hospital★	Lynn Mass	H Olken	7 819	2 603	2 603	119	1	7/1	1*	100
Newton Wellesley Hospital★[1]	Newton Lower Falls Mass	D Skinner	6 225	2,628	2,248	97			2p	
Quincy City Hospital★	Quincy Mass	R J Pollak	8 493	4 764	1 925	133	1	7/1	2p	150
Salem Hospital★[1]	Salem Mass	D A Nickerson	7 322	1 914	1 914	96	1	Varies	3	50
Pondville Hospital	Walpole Mass	S Warren	884	1 471	1 471	43			1	
Memorial Hospital★	Worcester Mass	R C Sniffen	8 106	2 787	2 007	107			1*	
Worcester City Hospital★[1]	Worcester Mass	R Goodale	11 913	3 964	2,964	268	1	1/1	4p	100
Worcester State Hospital	Worcester Mass		876	92	92	73			3	
University Hospital★[1]	Ann Arbor Mich	C V Weller	17 041	9,975		465	4	7/1	3	189.60
Leila Y Post Montgomery Hospital★	Battle Creek Mich	G W Schelm	7 054	2 600	2 600	62		7/1	1	150
City of Detroit Receiving Hospital★[1]	Detroit	O A Brines	19,323	8 739	8 739	532	4	7/1	4p	189 08
Grace Hospital★[1]	Detroit	C L Owen	24,213	12 230	12,230	294	1	7/1	3	75
Harper Hospital★[1]	Detroit	P F Morse	21,371	7 425		171	1	7/1	4p	110
Henry Ford Hospital★[1]	Detroit	F W Hartman	18 320	7 657	7 657	305	6	7/1	4p	200
Herman Kiefer Hospital★	Detroit	G E Fritz	5 749	721	721	181	1	7/1	1	365
Mount Carmel Hospital★	Detroit	L W Gardner	17 009	4 314	4 314	150	1		4p	
Providence Hospital★	Detroit	D H Kaump	10,024	3 766	3 766	196	1	7/1	3	140
Woman's Hospital★[1]	Detroit	D Beaver	9 756	4 497	4,340	71	1	7/1	1	165
Wayne County General Hospital and Infirmary★[1]	Eloise Mich	S E. Gould	7 172	3 260	3,260	520	2	7/1	3	235
Hurley Hospital★	Flint Mich	G R Backus and R J Jermstad	16 721	5 357	3 495	160	1	7/1	4p	135
Blodgett Memorial Hospital★	Grand Rapids Mich	C A. Payne	6 440	5 985	5 746	100	1	7/1	1	200
Butterworth Hospital★[1]	Grand Rapids, Mich	P A Van Pernis	14,587	6 105	4 821	185	1	7/1	4p	100
Edward W Sparrow Hospital★[1]	Lansing Mich	O E Black	9 446	2 918	2,918	122	1	7/1	1p	325
Saginaw General Hospital★[1]	Saginaw Mich	R V Bucklin	10 763	2 111	2 101	126		7/1	2p	85
St Mary's Hospital★[1]	Duluth Minn	W V Knoll	10 476	6 072	5,804	216	1	7/1	1	100
Minneapolis General Hospital★[1]	Minneapolis	S S Barron	9 095	2 126	1,907	407	1	1/1 7/1	3	125
Northwestern Hospital★	Minneapolis	S V Lofsness	10 537	3 010		110	1	10/1	3	150
St Barnabas Hospital★[1]	Minneapolis	N E Lufkin	9 481	2 846	2,155	183	1	1/1	2p	125
Swedish Hospital★	Minneapolis	A R. Jay	14,393			167		7/1	3p	125
University of Minnesota Hospitals★[1]	Minneapolis	J Dawson	10,288	5 906	5 729	333	9	7/1	4p	125
Mayo Foundation	Rochester Minn						18		3	92.50
Ancker Hospital★[1]	St Paul	J F Noble	7,957	1,396	1 161	411	1	7/1	1	91.50
Charles T Miller Hospital★[1]	St Paul	K Ikeda	8 929	4 621	4,351	142	1	7/1	3	115
St Louis County Hospital★	Clayton Mo	W G Brown	3 608	1 403	1,349	203	1	7/1	3	80
Kansas City General Hospital No 1★	Kansas City Mo	V B Buhler	10 315	2 974	2 324	501	2	7/1	3p	50
Menorah Hospital★[1]	Kansas City Mo	H Cohen	6 049	3 169	2 400	78	1	1/1 7/1	1p	125
Research Hospital★[1]	Kansas City Mo	H K B Alleback	7 635	4,557	4 414	127	1	7/1	3	100
St Joseph Hospital★	Kansas City Mo	R Kerr	12 575	6 281	3 703	198	2	7/1	3	150
St. Luke's Hospital★[1]	Kansas City Mo	F C Helwig	11 307	7 839	6 547	196	1	7/1	4p	75
Barnes Hospital★[1]	St Louis	R A Moore	16 827	7 197	7,197	297	10	7/1	3	25
Homer G Phillips Hospital★[1]	St Louis	J A Saxton	13,077	1 827	1 627	193	1	7/1	1	98
Jewish Hospital★[1]	St Louis	S H Gray	8 788	2 635	2 635	182	1	7/1	1	50
Missouri Baptist Hospital★[1]	St Louis	W E B Hall	13,282	7 283	3 609	95	1	7/1	2p	70
St Louis City Hospital★[1]	St Louis	J Saxton	17 673	3 743	6,226	570	3	7/1	3	
St Mary's Group of Hospitals★[1]	St Louis	H Pinkerton	10 655	9 696	8 101	123	2	7/1	3	35
Montana Deaconess Hospital★	Great Falls Mont	E Hildebrand	5,955	2 224	2 104	115	1	7/1	2p	200
Lincoln General Hospital★[10]	Lincoln Neb	F H Tanner	6 430	2 413	280	73	1	7/1	1	75
Creighton Memorial St Joseph's Hospital★[1]	Omaha	B C Russum	13 128	20 039	18 079	128	3	7/1	3	100
Nebraska Methodist Hospital★[1]	Omaha	J Schenken	6 124	3 556	3 556	79	2	7/1	4p	100
University of Nebraska Hospital★[1]	Omaha	J P Tollman	3,553	1 719	1 719	97	4	7/1	3	75
Mary Hitchcock Memorial Hospital★[1]	Hanover N H	R E Miller	5 650	2 896	2 607	123	4	7/1	3	150
Elliot Hospital	Manchester N H	S M Brooks	3 792	3,228	2 170	52	1	7/1	1*	200
Atlantic City Hospital★	Atlantic City N J	F Konzelmann	8 206	2 024	2 024	145	1	7/1	3p	50
Cooper Hospital★	Camden N J	W T Read Jr	11 478	2 706	2,046	289	1	7/1	3	83.33
West Jersey Hospital★	Camden N J	W R Platt	9 983	1,868	4 630	166	3	7/1	4p	125
Jersey City Hospital★[1]	Jersey City N J	A Gnassi	24 331	5,310	5,310	340	3		1	85
Monmouth Memorial Hospital★[1]	Long Branch N J	J A Ferguson	7 645	4 354	3,926	146	1	7/1	3p	150
Mountainside Hospital★[1]	Montclair N J	J L Work	7 961	3 588	3 753	115	1	7/1	3p	100 74
Burlington County Hospital	Mount Holly N J	J T Bauer	3,967	651	651	89	1	7/1	1*	100
Hospital of St Barnabas and for Women and Children★[1]	Newark N J	W G Bernhard	7 601	3 797	3 304	103	1	7/1	2p	100
Newark Beth Israel Hospital★	Newark N J	L Goldman	11,501	4 249	4 249	151	2	7/1	3	50
Newark City Hospital★[1]	Newark N J	H S Martland	12 528	1,327	1,327	381	2		3p	60
Presbyterian Hospital	Newark N J	S A. Goldberg ▾	9 459	4,243	4,243	72			1p	
Orange Memorial Hospital★[1]	Orange N J	A R Abel	9 543			89			2p	
Passaic General Hospital★	Passaic N J	J R Gannon	7 270	2,807	2,227	126	1		3p	100
Paterson General Hospital★[1]	Paterson N J	A H. Davis	9 698	5 238	4 225	183	2	7/1	2p	75
Muhlenberg Hospital★[1]	Plainfield N J	O G Darlington	9 306	2,577	2,448	133	1	7/1	1p	150
Mercer Hospital★[1]	Trenton N J	T K. Rathmell	7 655	1,357	1 350	100	1	7/1	2p	150
Albany Hospital★[1]	Albany N Y	A W Wright	15 296	6 036	6 036	327	3	7/1	3	41.66
Bender Hygienic Laboratory	Albany N Y	J J Clemmer		11 709	11 709	292	5	7/1	3	150
Binghamton City Hospital★[1]	Binghamton N Y	V W Bergstrom	10 537	2,471	2,446	171	1	7/1	3	
Beth El Hospital★[1]	Brooklyn	N Mitchell	8,293	2 914	2,914	126	2	7/1	4p	100

17 PATHOLOGY—*Continued*

Name of Hospital	Location	Chief of Service	Inpatients Treated°	Surgical Specimens	Number Examined Microscopically	Autopsies	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Brooklyn Hospital★[1]	Brooklyn	J A DeVeer	9,023	3,689	3,689	148	3	7/1	3	25
Coney Island Hospital★[1]	*Brooklyn*	H Fink	5,928	1,135	1,159	109	1	7/1	3P	80
Cumberland Hospital★[1]	Brooklyn	S H Polayes	7,939	1,428	1,397	221	1	7/1	3	80
Greenpoint Hospital★[1]	Brooklyn	R Aronoff	9,270	9,872	9,736	120	1	7/1	4P	130
Jewish Hospital★[1]	Brooklyn	D M Grayzel	15,465	6,232	5,204	187	6	7/1	3	30
Kings County Hospital★[1]	Brooklyn	C G Burn	63,486	14,641	14,641	987	7	7/1	3	80
Long Island College Hospital★[1]	Brooklyn	W H Cook	10,925	3,866	3,866	118	3	7/1	3	50
Maimonides Hospital★[1]	Brooklyn	A R Kantrowitz	13,058	4,307	4,307	189	3	7/1	3	75
Methodist Hospital★[1]	*Brooklyn*	B S Herr, Jr	9,781	3,324	3,324	130	1	7/1	1	25
St John's Hospital★[1]	Brooklyn	R Gettinger	4,802	1,585	1,585	51	1	1/1	1	100
Buffalo General Hospital★[1]	Buffalo	K L Terplan	11,568	5,165	5,163	204	6	7/1	3	25
Edward J Meyer Memorial Hospital★[1]	*Buffalo*	S Sanes	10,609	3,830	2,874	378	3	7/1	3	100
Millard Fillmore Hospital★	Buffalo	A V Postoloff	14,106	4,461	4,461	208	3	7/1	3	50
Flushing Hospital and Dispensary★[1]	Flushing, N Y	J Werne	10,172	2,175	2,025	119	1	7/1	1P	100
Meadowbrook Hospital★[1]	Hempstead, N Y	T J Curphey	9,825	3,437	3,437	336	3	7/1	1	134
Mary Immaculate Hospital★	Jamaica, N Y	M Bevilacqua	8,880	1,948		74	2	7/1	2P	100
Queens General Hospital★[1]	Jamaica N Y	A Angrist	14,593	70,047	70,047	601	2	7/1	3	80
Charles S Wilson Memorial Hospital★	Johnson City, N Y	A Kosinski	9,309	8,042	8,042	145	1	7/1	3P	125
St John's Long Island City Hospital★[1]	Long Island City, N Y	J Werne	6,246	978	978	168	1	7/1	3a, 1P	50
Mount Vernon Hospital★	Mount Vernon, N Y	J G Sharnoff	7,803	3,549	3,549	134	1	7/1	1P	200
Bellevue Hospital Div IV, Open Division	New York City								4P	
Bronx Hospital★[1]	New York City	J Felsen	8,062	4,248		89	2	7/1	3	75
Doctors Hospital[1]	New York City	J R Lisa	7,087	3,467	3,467	78	1	1/1, 7/1	1P	200
Flower and Fifth Avenue Hospitals★[1]	New York City	F D Speer	9,636	5,444	4,715	72	1	7/1	3	
Fordham Hospital★[1]	New York City	L J Millman	10,812	1,983	1,983	347	3	7/1	1	80
Goldwater Memorial Hospital★[1]	New York City	J Rosenthal	1,745	3,527	3,527	200	3	7/1	3	65 41
Harlem Hospital★	New York City	S Weintraub	21,801	6,810	6,810	328	3	7/1	1	80
Hospital for Joint Diseases★[1]	New York City	H L Jaffe	5,828	2,637	2,637	47	1	7/1	1P	40
Jewish Memorial Hospital★	New York City	A Angrist	5,743	2,030		79	1	7/1	1	100
Lebanon Hospital★[1]	New York City	J C Ehrlich	6,561	2,692	2,692	107	2	7/1	2P	100
Lenox Hill Hospital★[1]	New York City	R M Paltauf	12,615	4,082	4,082	81	2	Varies	3	50
Lincoln Hospital★[1]	New York City	C Brown	12,143	2,208	2,208	250	2	7/1	3	80
Memorial Hospital[1]	New York City	F Stewart	9,744	18,807	18,807	142	3	1/1, 7/1	2a	15
Metropolitan Hospital★[1]	New York City	A Saccone	13,158	1,727	1,694	217	2	7/1	1	130
Montefiore Hospital for Chronic Diseases★[1]	New York City	H M Zimmerman	4,367			362	3	7/1	3	50
Morrisania City Hospital★[1]	New York City	W Aronson	12,142	5,371	5,371	257	1	7/1	4P	80
Mount Sinai Hospital★	New York City	P Klemperer	16,050	7,038	7,038	308	4	7/1	3	50
New York City Hospital★[1]	New York City	J R Lisa	12,247	1,932	1,694	218	3	7/1	3	80
New York Hospital★[1]	New York City	J G Kidd	20,904	7,491	6,570	359	5	7/1	2	25
Presbyterian Hospital★[1]	New York City	H P Smith	30,220	6,426	6,204	412	3		3	150
Roosevelt Hospital★[1]	*New York City*	W W *Brandes*	8,748	3,654	3,654	159	2	7/1	1	
St Barnabas Hospital for Chronic Diseases [1, 54]	New York City	H K Russell	374	2,500	2,500	79	1	7/1	2P	75
St Clare's Hospital★	New York City	J M Ravid	10,138	2,491	2,491	142	1	7/1	2P	25
St Luke's Hospital★	New York City	B E Clarke	9,830	3,037	3,037	103	3	7/1	4P	50
St Vincent's Hospital★[1]	New York City	A Rattino	11,523	2,908	2,908	240	2	7/1	1	50
Sydenham Hospital★	New York City	I Chapman	5,074	1,846	1,696	70	1	7/1	1	130
University Hospital★[1]	New York City	M N Richter	9,000	5,970	5,668	104	4	7/1	3	80
Willard Parker Hospital[1]	New York City	V B Dolgopol	4,927	97	97	47	1	7/1	1	130
United Hospital★[1]	Port Chester, N Y	M Loder	6,136	2,139	2,167	74	1	7/1	1P	100
Rochester General Hospital★[1]	Rochester, N Y	M G Bohrod	12,442	5,632	5,429	221	4	7/1	3	55
St Mary's Hospital★[1]	Rochester, N Y	J Adler	13,083	3,839	3,184	163	5	7/1	1	125
Strong Memorial—Rochester Municipal Hospitals★[1]	Rochester, N Y	G H Whipple	16,010	4,218	4,218	488	1	7/1	3a	41 66
Ellis Hospital★[1]	Schenectady, N Y	E Kellert	15,507	4,335	4,335	206	2	7/1	3	100
Syracuse University Medical Center Hospitals	Syracuse, N Y								3	
Samaritan Hospital★[1]	Troy, N Y	C M Alexander	5,366	2,185	2,185	64	1	7/1	1	
Grasslands Hospital★[1]	Valhalla, N Y	D M Spain	4,489	1,646	1,645	207	2	7/1	3	125
White Plains Hospital★[1]	White Plains, N Y	H D Kesten	9,010	2,143	2,143	110	1	7/1	2P	130
Charlotte Memorial Hospital★[1]	Charlotte, N C	P Kimmelstiel	11,000	6,090	5,922	179	3	7/1	3	75
Duke Hospital★[1]	Durham, N C	W D Forbus	13,952	10,248	10,248	220	11	7/1	3	83.33
Watts Hospital★[1]	Durham, N C	J U Gunter	8,063	3,166	2,782	125	1	7/1	2	60
North Carolina Baptist Hospital★[1]	Winston Salem, N C	R P Morehead	8,370	19,455	19,455	105	5	1/1, 7/1	3	41 66
City Hospital★	Akron, Ohio	L Catron	14,858	5,631	5,631	226	3	7/1	3	115
Peoples Hospital★[1]	Akron, Ohio	G R Dochat and W E James	9,081	4,131	3,695	111	1	7/1	3P	100
Aultman Hospital★	Canton, Ohio	D G Henderson	10,363	2,023	2,611	223	2	7/1	1	75
Bethesda Hospital★[1]	Cincinnati	R J Davis	8,690	4,546	2,239	112	2	7/1	2a	150
Christ Hospital★	Cincinnati	J W Leichliter	11,260	3,795	3,395	143	1	7/1	1	90
Cincinnati General Hospital★[1]	Cincinnati	E Gall	15,449	3,125	3,125	593	6	7/1	4P	
Good Samaritan Hospital★[1]	Cincinnati	W McK Germain	16,783	6,523	4,698	197	1	7/1	3	105
Jewish Hospital★	Cincinnati	P Wasserman	12,763	4,469	4,715	220	1	7/1	4P	60
City Hospital★[1]	*Cleveland*	T D Kinney	11,457	2,472	2,472	456	6	7/1	3	60
Cleveland Clinic Hospital[1]	Cleveland	J B Hazard	8,537	4,775	4,753	132	11	7/1	4P	135
Mount Sinai Hospital★[1]	Cleveland	B S Kline	11,441	3,778	3,773	124	2	7/1	2	100
St Luke's Hospital	*Cleveland*	R Dominguez	14,022	6,167	5,908	166	2	6/25	4P	60
St Vincent Charity Hospital★	Cleveland	D J Rehbock	7,729	2,164	2,150	91	1	7/1	3P	50
University Hospitals★[1]	Cleveland	A R Moritz	22,380	7,129	7,129	421	7	7/1	3	25
Grant Hospital★	*Columbus, Ohio*	W H Benham	10,628	2,503	2,000	116	1	7/1	1	200
Ohio State University Hospital★[1]	Columbus, Ohio	H L Reinhart	8,847	3,949	3,949	309	4	7/1	4P	50
White Cross Hospital★[1]	Columbus, Ohio	R S Fidler	11,302	8,145	8,145	112	2	7/1	4P	100
Miami Valley Hospital★[1]	Dayton, Ohio	M Oosting	15,435	8,136	8,136	255	2	7/1	4P	75
Huron Road Hospital★[1]	E Cleveland, Ohio	E Goodsitt	10,642	3,706	3,632	114	1	7/1	4P	75
Mercy Hospital★	Hamilton, Ohio	K E Lande	8,769	1,029	1,029	110	1	7/1	1P	100
St Rita's Hospital★	Lima, Ohio	C L Blumstein	11,372	2,714	2,049	115		7/1	1P	100
Springfield City Hospital★	Springfield, Ohio	M P Hunter	10,915	5,718	4,368	213	1	7/1	1a	200
Mercy Hospital★	Toledo, Ohio	E L Burns	12,191	5,790	4,691	177	1	7/1	3	125
St Vincent's Hospital★[1]	Toledo, Ohio	M F Vidoli	10,990	3,974	3,974	150	1	7/1	1	
Toledo Hospital★[1]	Toledo, Ohio	B Steinberg	9,495	3,598	3,188	169	2	7/1	4P	100
Youngstown Hospital★[1]	Youngstown, Ohio	H E Rappaport and H K Giffen	20,250	4,905	4,905	390	3	7/1	4P	75
University Hospitals★	*Oklahoma City*	H C Hopps	7,106	2,551	2,197	135	1	7/1	3	35
Hillcrest Memorial Hospital★[1]	Tulsa, Okla	L Lowbeer	11,263	2,719	2,719	106		7/1	1a	75
Emanuel Hospital★[1]	Portland, Ore	H H Foskett	13,667	7,632	6,040	218	1	7/1	1	75
Good Samaritan Hospital★[1]	Portland, Ore	W L Lehman	14,044	4,000	3,900	197	2	1/1, 7/1	4P	75

Numerical and other references will be found on page 1215

17 PATHOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated[6]	Surgical Specimens	Number Examined Microscopically	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Providence Hospital*	Portland Ore	J Minckler	7 905	8 356	2 509	170	1	7/1	2[a]	75
St Vincent's Hospital*	Portland Ore	F R Menne	10,909	6 478	6 478	138	1	7/1	4[p]	75
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore	W C Hunter	7 202	3 152	3 152	373	4	7/1	3	75
Abington Memorial Hospital*[1]	Abington Pa	J Felman	8 535	3,264	3 326	101	3	7/1	4[p]	75
Allentown Hospital*	Allentown Pa	I J Wenner	12 085	5 166	3,812	150	1	7/1	3	100
Sacred Heart Hospital*[1]	Allentown Pa	D E. Stader	8 169	4 437	4 437	129	1	7/1	1[p]	150
St Luke's Hospital*[1]	Bethlehem Pa	T A Cope Jr	10 469	2,324	1 947	162	1	7/1	3[p]	130
Bryn Mawr Hospital*	Bryn Mawr Pa	M M Strumia	8 190	3,504	3,339	124	2	7/1	4[p]	75
George F Geisinger Memorial Hospital and Clinic*	Danville Pa	H F Hunt	8 074	2 733	2 644	93	1	7/1	1	75
Fitzgerald Mercy Hospital*	Darby Pa	A Dapena	7 315	1,870	1 769	76	1	7/1	1	100
Hamot Hospital*[1]	Erie Pa	E L. Armstrong	9,580	2,529	2,520	177	5	7/1	4[p]	150
Lancaster General Hospital*	Lancaster Pa								1[p]	
Episcopal Hospital*	Philadelphia	W P Belk	9 046	1 598	1 595	159	1	7/1	3[p]	50
Frankford Hospital*[1]	Philadelphia	W L C Spaeth	5 051	1,590	1 590	108	1	7/1	1[a]	200
Germantown Dispensary and Hospital*[1]	Philadelphia	F B Lynch Jr	8,813	1,900	1 600	125	1	7/1	2[p]	50
Graduate Hospital of the Univ of Pennsylvania*	Philadelphia	A Valdes Dapena	8 322	3 051	3 051	130	3	7/1	3	
Hahnemann Hospital*[1]	Philadelphia	I E Gregory	14 037	4,572	4 572	807	6	9/1	4[p]	50
Hospital of the University of Pennsylvania*[1]	Philadelphia	B Lucke	20,337	7,332	7,332	452	12	Varies	3	
Hospital of the Woman's Medical College of Pennsylvania*[1]	Philadelphia	M A Geiss	4 854	1 409	1,386	49	1	7/1	2[p]	100
Jefferson Medical College Hospital*	Philadelphia	C J Bucher	21 141	8 151	8 151	207	2		3	
Jewish Hospital*[1]	Philadelphia	H Ingleby	10 150	3,391		207	2	7/1	1	50
Lankenau Hospital*[1]	Philadelphia	C E Brown	6 211		7 712	169	2	7/1	4[p]	50
Mount Sinai Hospital*[1]	Philadelphia	D R Meranze	6 776	3 089	3 089	161	3	7/1	4[p]	50
Pennsylvania Hospital*	Philadelphia	A R Crane	10,884	4 330		188	5		4[p]	20
Philadelphia General Hospital*[1]	Philadelphia	J H Clark	20,297	4 674	4 674	1,548	5	7/1	3	75
Presbyterian Hospital*	Philadelphia	R P Custer	9 657	2 499	2 499	165		7/1	4[p]	
Temple University Hospital*[1]	Philadelphia	F E Aegerter	10 466	11 650	11 650	290	3	7/1	3	50
Allegheny General Hospital*	Pittsburgh	S R Haythorn	12 183	2,987	2 727	121	1	7/15	3	100
Children's Hospital[1]	Pittsburgh	M L. Menten	5 559	363	359	91	1	7/1	1	41 66
Mercy Hospital*[1]	Pittsburgh	H H Permar	14 867	4 445	3,556	151	1	7/1	4[p]	100
Montefiore Hospital*[1]	Pittsburgh	K Yardumian	8 279	3 302	2,657	126	1	7/1	3[p]	50
Presbyterian Hospital*[1]	Pittsburgh	G R Lacy	5 318	2,230	1 605	88	3	7/1	3	41 67
St Francis Hospital*	Pittsburgh	R C Hamilton	13 025	2 142	2,344	120	2	7/1	3	100
Western Pennsylvania Hospital*	Pittsburgh	A Graham	13 816	3 267	3 267	134		7/1	3[p]	100
Reading Hospital*[2]	Reading Pa	W P Jennings	10 487	2 764	2,522	253	1	7/1	3	125
Robert Packer Hospital*	Sayre Pa	C H De Wan	10 451	2 619	2 106	169	2	7/1	3[p]	150
Scranton State Hospital*	Scranton Pa	F P Swartz	6 232	2 031	2 031	122	1	7/1	2[p]	128.50
Williamsport Hospital*	Williamsport Pa	M G Colvin	8 731	5 851	2,572	95	1	7/1	3	100
York Hospital*	York Pa	L C Pusch	10 178	2 038	2 014	143		7/1	3[p]	100
Rhode Island Hospital*[1]	Providence R I	H Fanger	14 924	5 754	5 754	365	3	7/1	3[p]	50
Roper Hospital*[1] [10]	Charleston S C	K M Lynch	12 637	18 108	17 614	223	2	7/1	3	150
Baroness Erlanger Hospital*[1]	Chattanooga Tenn	J Adams	14 018	6 415	6 363	139	1	7/1	4[p]	75
Baptist Memorial Hospital*	Memphis Tenn	M L Trumbull	10 609	7 468	7 432	204	2	7/1	2	75
John Gaston Hospital*	Memphis Tenn	D Sprunt	10 497	3 984	2 177	619	3	7/1	4[p]	
Methodist Hospital*[1]	Memphis Tenn	W W Tribby	12 659	4 724	7 750	112	4	7/1	4[p]	75
St Joseph Hospital*[1]	Memphis Tenn	T C Moss	10 830	11 097	4,532	83	1	7/1	3[a]	100
Nashville General Hospital*	Nashville Tenn	W A DeMunbreun	6 142	1 757	1 025	106	1	7/1	3[p]	62.50
Vanderbilt University Hospital*[1]	Nashville Tenn	E W Goodpasture	9 495	2 160	2,095	183	5	7/1	3	35 41
Baylor University Hospital*[1]	Dallas Texas	J M Hill	17 726	7 664		150	6	7/1	3	50
Parkland Hospital*[1]	Dallas Texas	E E Muirhead	7 779	2 764	2 764	239	4	7/1	3	50
St Paul's Hospital*[1]	Dallas Texas	J L Goforth	12,839	4 423	3 734	107	3	7/1	4[p]	100
University of Texas Medical Branch Hospitals John Sealy Hospital*	Galveston Texas	E Baird	10,203	4 068	3 997	265	5	7/1	3	100
Hermann Hospital*[1]	Houston Texas	A H Keffler	10 812			170	1		4[p]	75
Jefferson Davis Hospital*[1]	Houston Texas	W W Coulter Sr	12,555	11 481	8 469	317		7/1	3	
M D Anderson Hospital for Cancer Research	Houston Texas								2[p]	
Baptist Memorial Hospital*[1]	San Antonio Texas	A O Severance	12 074	5 000	4 664	95	1	7/1	2[p]	200
Santa Rosa Hospital*	San Antonio Texas	J M Moore	14 220	4 631	4 083	135	2	/1	3	200
Dr W H Groves Latter Day Saints Hospital*[1]	Salt Lake City	J H Carlquist	14 796	5 233	3 132	137		7/1	1[a]	75
Holy Cross Hospital*	Salt Lake City	C McNeil	7 302	8 775	2 937	66	1	7/1	1[p]	75
Salt Lake County General Hospital*[1]	Salt Lake City	F D Gunn	3,802	1 504	1 411	160	2		3	
Mary Fletcher Hospital*[1]	Burlington Vt	B Pearson	6 003	4 000	4 000	100	3	7/1	3	50
University of Virginia Hospital*	Charlottesville Va	J R Cash and W E Bray Sr	14 573	14 149	14 149	212			3[a]	
De Paul Hospital*[1]	Norfolk Va	A F Strauss	8 539	4,333	4,309	151	1	7/1	3[p]	100
Norfolk General Hospital*[1]	Norfolk Va	L J Motyce and E D Levy	9 665	4 683		84	1	7/1	3	125
Medical College of Virginia Hospital Division*[1]	Richmond Va	G Z Williams and F Apperly	17,395	9 68	9,565	333	5		3	
King County Hospital Unit No 1 (Harborview)*[1]	Seattle	C R Jensen	11 750	2,198	1 849	472		7/1	3	90
Providence Hospital*[1]	Seattle	D G Mason	12,262	3 013	1 604	219	1	7/1	3	100
Swedish Hospital*[1]	Seattle	P K. Lund	13 495	18 061	12 352	906	1		1	100
Deaconess Hospital*[1]	Spokane Wash	R F E Stier	8 978	4 637	3 441	150	1	7/1	3	150
St Luke's Hospital*[1]	Spokane Wash	O O Christianson	7 198	3,311	5,649	100	1	7/1	2[p]	125
St Joseph's Hospital*	Tacoma Wash	C R McColl	8 273	1 063		121	1	7/1	1	
Tacoma General Hospital*	Tacoma Wash	C P Larson	8 550	6 799	5 703	73	3	7/1	3[p]	150
Charleston General Hospital*[1]	Charleston W Va	W Putschar	8 504	2 038	2 002	118		7/1	3	100
State of Wisconsin General Hospital*[1]	Madison Wis	D M. Angevine and W D Stovall	14 458	4 071	3 940	250	5	1/1 7/1	3	25
Columbia Hospital*	Milwaukee	G Ritchie	5 267	2,271	1 719	107	1	7/1	3	75
Milwaukee County Hospital*[1]	Milwaukee	J F Kuzma	19 117	2 651	2,580	103	3	7/1	4[p]	175.58
St Joseph's Hospital*	Milwaukee	W A D Anderson	13 086	3 645	2,394	131	1	7/1	4[p]	75
St Mary's Hospital*	Milwaukee	S Passin	7 667	3 409	2 173	113	2	7/1	1[a]	
Queens Hospital*[1]	Honolulu Hawaii	S Price	11 255	4 147	3,859	222	2	7/1	3	75
University Hospital (School of Tropical Medicine)	San Juan Puerto Rico	E Koppisch	756	261	261	16	3	7/1	3[a]	150

Numerical and other references will be found on page 1215

18 PEDIATRICS

The following services are approved by the Council and the American Board of Pediatrics.
Hospitals, 216 Assistant Residencies and Residencies, 1 001

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital★	San Francisco	C L Milburn	340	3,733	21	19	3	1/1, 7/1	2	n
Fitzsimons General Hospital★	Denver	M W Stark	452	11,036	9	8	4	1/1, 7/1	2	n
Army Medical Center★[15]	Washington, D C	O C Bruton	992	10,293	12	12	4	7/1	2	n
Brooke Army Medical Center★[11]	San Antonio, Texas	L J Geppert	3,194	16 034	55	55	6	7/1	2	n
United States Navy										
U S Naval Hospital★	Oakland, Calif	M Kurzrok	617	972	1	1			1	n
U S Naval Hospital★[1]	Bethesda Md	J T Fowler	780	13,256	83	28	2	Varies	2	n
U S Naval Hospital★	Chelsea, Mass	D W Sherwood	289	6,395	18	15	3		1	n
U S Naval Hospital★	Philadelphia	J F Shaul	231	9,338	10	3	4	1/1 7/1	2	n
Federal Security Agency										
Freedmen's Hospital★[1]	Washington, D C	R B Scott	549	2 431	35	21	4	7/1	2	n
Nonfederal										
Carraway Methodist Hospital★	Birmingham, Ala	S Wainwright	858	13,021	22	9		7/1		150
Children's Hospital[1]	Birmingham, Ala	A A Walker	2,234	9,341	42	26	3	7/1	2	50
Jefferson Hillman Hospital★[1]	Birmingham, Ala	B Chenoweth, Jr	2,321	7,468	209	159	4	7/1	2	50
Employees Hospital of Tennessee Coal Iron and Railroad Company★	Fairfield, Ala	G C McCullough	906	15,061	23	12	4	7/1	1	225
City Hospital★	Mobile, Ala	J MacBell	955	2,384	78	80			1	
University Hospital★[1]	Little Rock Ark	W A Reilly	594	5,037	66	84	4	7/1	2	75
San Joaquin General Hospital★[1]	French Camp Calif	W T Auld	2 190	8 128	58	48	1	7/1	1	220
General Hospital of Fresno County★[1]	Fresno Calif	D L Hyde	1,391	3,929	82	30	3	7/1	1	218
Seaside Memorial Hospital★[1]	Long Beach, Calif	J R Jimerson	2 698		45	13	1	7/1	1	150
California Babies' and Children's Hospital	Los Angeles	I W St Geme	403	16,432	5	5	1	7/1	1	100
Children's Hospital★[1]	Los Angeles	E S Fish	1,913	44,349	27		6	1/1, 7/1	2	40
Los Angeles County Hospital★[1]	Los Angeles	M B Brooks	3,783	8,853	163	93	11	Varies	2	165
Queen of Angels Hospital★[1]	Los Angeles	M H Jones	1,779	1,454	19		2	7/1	1	100
White Memorial Hospital★[1]	Los Angeles	M B Brooks	449	17,070	18	15	4		2	120
Children's Hospital of the East Bay[1]	Oakland Calif	C D Sweet	5 467	26,837	65	58	9	7/1, 8/1	2	150
Highland Alameda Hospital★[1]	Oakland Calif	A L Gleason	2,611		51	23	2		1	135
Permanente Foundation Hospital★[1]	Oakland, Calif	A King	707	2,728	6	3			1	
Children's Hospital★[1]	San Francisco	C F Gelston	707	3,913	41	29	3	7/1	2	50
Mount Zion Hospital★[1]	San Francisco	E Wolff	358	902	19	18	1		1	50
St Mary's Hospital★[1]	San Francisco	R Flood	2,044	8,190	16	11	1	7/1	1	100
San Francisco Hospital★[1]	San Francisco						2	7/1		175
Stanford University Hospitals★[1]	San Francisco	J A Anderson	488	16,445	80	25	5	7/1	2	50
University of California Hospital★[1]	San Francisco	W C Deamer	1,496	14,670	45	41	4	7/1	2	75
Harbor General Hospital★	Torrance, Calif	A J Rounds	632	1,516	12	8	3	7/1	2	165
Children's Hospital[1]	Denver	M Gardner	3,322	19,421	84	81	10	7/1	2	50
University of Colorado Medical Center										
Colorado General Hospital★[1]	Denver	H H Gordon	269	8,445	10	10	14	7/1	2	75
Denver General Hospital★[1, 9]	Denver	H H Gordon	1,429	8,861	24	19	5	7/1	2	75
Hartford Hospital★[1]	Hartford Conn	E Caulfield	975	195	22	14	2	7/1	2	50
Grace New Haven Community Hospital										
New Haven Unit (University Service)★[1]	New Haven Conn	G Powers	2 762	11,449	82	66	5	7/1	2	40
Hospital of St Raphael★[1]	New Haven, Conn	W McGuire	1,605		18	2	1	7/1	1	75
Delaware Hospital★[1]	Wilmington, Del	C E Wagner	1,709	1,170	63	48	2	7/1	1	90
Children's Hospital	Washington D C	J S Wall	8 097	82 284	127	100	6	7/1	2	40
Gallinger Municipal Hospital★[1]	Washington D C	I K Sweet	1,168	12,074	32	15	8	7/1	2	100
Providence Hospital★	Washington D C	W O Donnell	1,721	879	11	3	1	7/1	1	75
Duval Medical Center★[1]	Jacksonville, Fla	L W Holloway	529		76	57		7/1	1	125
St Vincent's Hospital★[1]	Jacksonville, Fla	L W Holloway	1,739		25	18	3	7/1	1	100
Jackson Memorial Hospital★[1]	Miami, Fla	W A Quillian	1,263	2,987	61	16	2	7/1	2	60
Crawford W Long Memorial Hospital★[1]	Atlanta Ga	L H Muse	1,182	1 621	23	12	6	1/1, 7/1	2	75
Grady Memorial Hospital★[1]	Atlanta Ga	R W Dickson	975	32,291	78	37	9	7/1	2	20
Henrietta Egleston Hospital for Children[1]	Atlanta, Ga	M H Roberts	1,170		36	20	3	1/1, 7/1	2	55
University Hospital★[1]	Augusta Ga	P Mulherin	1 006	2,183	66	23	7	7/1		40
Children's Memorial Hospital[1]	Chicago	J A Bigler	2,342	53,848	86	79	10	1/1, 7/1	2	75
Cook County Hospital★[1]	Chicago	A Levinson	8,510	8,505	355	323	15	1/1, 7/1	2	32
Mercy Hospital Loyola University Clinic★[1]	Chicago	H W Elghammer	1,793	2,738	20	14	4	7/1	1	25
Michael Reese Hospital★[1]	Chicago	A F Abt	6,119	12,818	210	168	10	7/1	2	25
Mount Sinai Hospital★	Chicago	P L Aries	2,721	3,011	46	44	2	1/1, 4/1	2	50
Presbyterian Hospital★	Chicago	H N Sanford	1,470	5,951	66	59	2		2	25
Provident Hospital★[1]	Chicago	F Beasley	457	3,638	10	9	3	7/1	2	50
Research and Educational Hospital★[1]	Chicago	H G Poucher	342	11,113	38	38	4	7/1	2	65
St Joseph Hospital★[1]	Chicago	A I Hoyne	738	1,230	4	3	1	9/1	1	75
St Luke's Hospital★[1]	Chicago	A Biggs	1 319		22	21	2	1/1, 7/1	2	25
St Vincent's Infant and Maternity Hospital[1]	Chicago	H M Jacobs	934		10	9	2	1/1, 7/1	1	50
University of Chicago Clinics★[1]	Chicago	F H Wright	1,010	19,076	42	34	15	7/1	2	
Little Company of Mary Hospital★[1]	Evergreen Park, Ill	F G Lawler	2,370		11	7	1	7/1	1	100
West Suburban Hospital★	Oak Park, Ill	C D Butler	2,021	1,283	19	15		7/1	1	150
St Francis Hospital★[1]	Peoria Ill	F H Maurer	1,270	902	46	30	1	7/1	1	100
Indianapolis General Hospital★[1]	Indianapolis	B K Rust	2,027	8,867	83	28	3	7/1	2	80
Indiana University Medical Center★[1]	Indianapolis	M Winters	1,941	3,418	169	119	5	7/1	2	68 33
Iowa Methodist Hospital★[1]	Des Moines, Iowa	I F Hill	3,899	7,551	78	60	7	7/1	2	75
University Hospitals★[1]	Iowa City	P C Jeans	1,334	2,521	65	49	5		2	
University of Kansas Medical Center★[1]	Kansas City Kan	H Miller	853	5 970	57	39	5	7/1	2	100
Louisville General Hospital★[1, 42]	Louisville Ky	L T Davidson	2,325	12,193	107	88	13	7/1	2	45
St Joseph Infirmary★	Louisville Ky	H S Andrews	1,061	949	47	26	3	7/1	2	75
Charity Hospital of Louisiana★[1]	New Orleans		3,477	27,484	165	102	21	7/1	2	25
Hotel Dieu Sisters Hospital★[1]	New Orleans	A Sullivan	1,794		22	15	2	7/1	1	75
Southern Baptist Hospital★[1]	New Orleans	J F Strange	1,156		11		2	7/1	1	100
Touro Infirmary★[1]	New Orleans	J Graubarth	768	8,586	13	8	2	7/1	2	25
Shreveport Charity Hospital★	Shreveport La	C H Webb	2 067	1,476	106	45	3	7/1	2	60
Central Maine General Hospital★[1]	Lewiston, Maine	H C Thacher	948	875	20	18	1	7/1	1	100
Baltimore City Hospitals★[1]	Baltimore	H E Harrison	571	5 214	63	46	6	7/1	2	15
Johns Hopkins Hospital★[1]	Baltimore	F F Schwentker	1,599	51,731	197	164	14	7/1	2	41 66
Mercy Hospital★[1]	Baltimore	E Friedenwald	557	1,595	22	18	1	7/1	1	75
Sinai Hospital★[1]	Baltimore	A J Schaffer	479	4,589	46	41	8	7/1	1	25
Union Memorial Hospital★[1]	Baltimore	S Grimes	627	1,822	12	8	2	7/1	1	20
University Hospital★[1]	Baltimore	J E Bradley	588	9,882	49	39	6	7/1	2	75
Boston City Hospital★[1]	Boston	M I English	4,347	9,548	80	55	2	7/1	2	110
Boston Floating Hospital[1]	Boston	J M Baty	1,765		53	48	10	7/1	2	25

Numerical and other references will be found on page 1215

18 PEDIATRICS—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Children's Hospital*¹	Boston	C Janeway	2 749	22 186		54	26			
Massachusetts General Hospital*	Boston									
Worcester City Hospital*¹	Worcester Mass		725		27	13			1	100
University Hospital*¹	Ann Arbor Mich	J Wilson	1 815	13 148	93	66	37	7/1	2	139 60
Children's Hospital¹	Detroit	P V Woolley Jr	3 464	59 806	311	248	22	7/1	2	50
Harper Hospital*¹	Detroit	D J Barnes	1 469	528	28	19	8	7/1	1	110
Henry Ford Hospital*¹	Detroit	J A Johnston	1 673	24 053	30	16	7	7/1	2	200
Providence Hospital*	Detroit	S S Schooten	766		20	15	1		1	140
Saginaw General Hospital*¹	Saginaw Mich	R M Kempton	1,044	529	12	8	2	7/1	1	85
St Mary's Hospital*	Duluth Minn	R E Nutting	943		22	20	3	7/1	1	100
Minneapolis General Hospital*¹	Minneapolis	A V Stoesser	2 294	5 148	63	33	3	1/1 7/1	2	125
Northwestern Hospital*¹	Minneapolis	F S Platou	527		7	5	1	7/1	1	150
†St Barnabas Hospital*¹	Minneapolis	S L Arey	1 863		30	25	2	7/1		125
University of Minnesota Hospitals*¹	Minneapolis	I McQuarrie	2 609	5,350	117	88	17	7/1	2	125
Mayo Foundation	Rochester Minn	R L J Kennedy					15		2	92 51
Children's Mercy Hospital¹	Kansas City Mo	H M Gilkey	1 565	12 116	75	57	3	1/1 7/1		85
Kansas City General Hospital No 1*	Kansas City Mo	E H Schorer	1 702	4 445	58	46	2	7/1	1	50
Homer G Phillips Hospital*¹	St Louis	P J White	4 435	7 949	131	25	4	7/1	2	98
†Jewish Hospital*¹	St Louis	M Peutch	818	1 706	7	5	1	7/1	1	100
St Louis Children's Hospital¹	St Louis	A F Hartmann	3 446	30 000	125	72	23	7/1	2	10
St Louis City Hospital*¹	St Louis	M Carson and V Hrdlicka	2,303	4,594	93	33	4	7/1	2	
St Mary's Group of Hospitals*¹	St Louis	P G Danis	1 829	12 202	38	22	12	7/1	2	35
Creighton Memorial St Joseph's Hospital*	Omaha	J H Murphy	1 123	4 169	20	11	2	7/1	1	100
University of Nebraska Hospital*¹	Omaha	H M Jahr	446	1 950	13	11	5	7/1	2	15
Mary Hitchcock Memorial Hospital*¹	Hanover N H	C C Stewart	784	4 946	26	23	1	7/1	1	150
Jersey City Hospital*¹	Jersey City N J	C P DeFuccio	2 301	9 734	39	18	7	Varies	2	35
Babies Hospital Coit Memorial¹	Newark N J	M G Gregory	2 635	4 307	25	17	2	7/1	1	60
St Michael's Hospital*	Newark N J	H A Murray	2 613	5 655	37	31	6	7/1	2	75
Albany Hospital*¹	Albany N Y	O A Faust	8 0	2 534	39	20	4	7/1	2	41 66
Beth-El Hospital*¹	Brooklyn	B Schick	3 092	2 342	78	68	3	7/1	1	100
Brooklyn Hospital*¹	Brooklyn	T M Lamb	482	6 151	18	14	2	7/1	1	25
Coney Island Hospital*¹	Brooklyn	S Nussbaum	1 676	2 935	41	32	2	7/1	1	80
Cumberland Hospital*¹	Brooklyn	T B Givan	2,205	5 935	56	43	3	7/1	2	80
Greenpoint Hospital*¹	Brooklyn	I Schiff	648	5 509	27	21	3	7/1	1	130
Jewish Hospital*¹	Brooklyn	B Kramer	823	14 453	35	26	10	7/1	2	30
Kings County Hospital*¹	Brooklyn	L Krahulik and A Serri	7 090	6 210	255	137	4	7/1	2	80
Long Island College Hospital*¹	Brooklyn	C A Weymuller	607	9 019	26	16	4	7/1	2	50
Maimonides Hospital*¹	Brooklyn	H Wexler and M Palinsky	1 177	1 481	25	16	2	7/1	2	75
Methodist Hospital*¹	Brooklyn	W F Watton Sr	539	1,057	16	14	2	7/1	1	25
Norwegian Lutheran Deaconesses Home and Hospital*¹	Brooklyn	T B Givan and J A Monfort	2 445	1 960	15	17	2	7/1	1	50
St Mary's Hospital*	Brooklyn	K G Jennings	402	1 070	9	6	1	7/1	1	100
Children's Hospital¹	Buffalo	M I Rubin	1 114		71	58	6	7/1	2	25
Edward J Meyer Memorial Hospital*¹	Buffalo	F J Custina	1 424	12,801	42	20	8	7/1	1	100
†Mary Imogene Bassett Hospital*¹	Cooperstown N Y	T C Goodwin	253	5 038	5	2	1	7/1	2	83 33
Queens General Hospital*¹	Jamaica N Y	H A Reisman	3 093	4 146	116	87	4	7/1	2	
Bellevue Hospital Div III—New York University*¹	New York City									
Beth Israel Hospital*¹	New York City	P Cohen and J M Lewis	350	2 435	25	18	2	1/1 7/1	1	50
Bronx Hospital*¹	New York City	J H Lapin	2,857	8 165	11	8		7/1	2	75
Flower and Fifth Avenue Hospitals*¹	New York City	I Slobody	1 027	3 983	44	31	4	7/1	2	
Fordham Hospital*¹	New York City	J Golomb	756	1 055	38	18	3	7/1	2	80
Harlem Hospital*¹	New York City	M Gleich	5 5 7	11 408	220	148	4	1/1 7/1	2	80
Lenox Hill Hospital*¹	New York City	H Chaplin	571	8 279	12	9	1	Varies	2	50
Lincoln Hospital*¹	New York City	H S Altman	972	7 462	38	27	6	7/1	2	50
Metropolitan Hospital*¹	New York City	L B Slobody	1 916	8 634	46	22	5	7/1	2	85
Morrisania City Hospital*¹	New York City	L H Barenberg	980	3 6 5	27	9	3	7/1	2	80
Mount Sinai Hospital*	New York City	H L Hodes	1 462	22 898	57	42	5	7/1	2	50
New York City Hospital*¹	New York City	F E Amerman	1 663	6 017	59	45	3	7/1	2	130
New York Foundling Hospital¹	New York City	A J Vignec	585	4 058	2	2	4	1/1 7/1	½	50
New York Hospital*¹	New York City	S Z Levine	1 443	34 315	122	110	17	7/1	2	25
New York Infirmary*¹	New York City	R M Bakwin	414	3 629	4	2	1	7/1	1	75
Presbyterian Hospital*¹ ⁴⁹	New York City	R McIntosh	4 307	82 938	116		16	1/1 7/1	2	41 66
Roosevelt Hospital*¹	New York City	A T Martin	647	2 509	11	9	1	7/1	1	25
†St Clare's Hospital*¹	New York City	C H O'Regan	2,220	6,255	41	29	2	7/1	1	25
St Luke's Hospital*¹	New York City	F H Wilke	604	8 000	17	14	4	1/1 7/1	2	50
St Vincent's Hospital*¹	New York City	A J Vignec	876	8 639	23	16	2	7/1	2	50
University Hospital*¹	New York City	A De Sanctis	663	11 719	25	15	5	7/1	2	80
Genesee Hospital*¹	Rochester N Y	J Glaser	672	1 017	11	10	1	7/1	3	30
†Rochester General Hospital*¹	Rochester N Y	F W Bush	500	2 426	14	12	2	7/1	1	55
Strong Memorial—Rochester Municipal Hospitals*¹	Rochester N Y	S W Clausen	1 472	9 613	50	42	9	7/1	2	41 66
St Vincent's Hospital*	Staten Island N Y	G McCormick	3 355	950	39	21	1	7/1	1	100
Sea View Hospital¹	Staten Island N Y	B Ratner	340		2		5	7/1	1	120
Syracuse Memorial Hospital*	Syracuse N Y	T C Wyatt	902	168	70	47	5	7/1	2	125
Grasslands Hospital*¹	Valhalla N Y	F D Barnes	595	2,180	21	16	3	7/1	2	125
Charlotte Memorial Hospital*¹	Charlotte N C	J S Hunt	1,518	4 046	56	40	2	7/1	1	60
Presbyterian Hospital	Charlotte N C	R Moore	526	248	6	2	1	7/1	1	95
Duke Hospital*¹	Durham N C	W C Davison	950	11 503	81	47	15	7/1	2	83.33
Watts Hospital*¹	Durham N C	A H London	920	2,278	20	9	1	7/1	2	50
Sternberger Hospital for Women and Children¹	Greensboro N C	A Rubin	1 601		17	7	1	1/1	1	40
Rex Hospital*¹	Raleigh N C	A S Root	1 633	1 097	22	7	1	7/1	1	150
Babies Hospital¹	Wilmington N C	J B Sidbury	1 428	6 000	21	13	2	7/1	1	100
James Walker Memorial Hospital*¹	Wilmington N C	J C Knox	3 017	3,672	76	28	1	7/1	1	150
North Carolina Baptist Hospital*¹	Winston Salem N C	L J Butler	1 810	2,873	72	50	5	7/1	2	41 66
Trinity Hospital*¹	Minot N D	R E Dyson	979	6 898	11	10	1	7/1	1	150
Children's Hospital¹	Akron Ohio	N Miller	2,413	1 118	60	41	5	7/1	2	100
Children's Hospital¹	Cincinnati	A. A. Weech	2,995	12 421			16	7/1	2	35
Cincinnati General Hospital*¹	Cincinnati	A A Weech	1 513	10,287	85	56	16	7/1	2	
University Hospitals*¹	Cleveland	C F McKhann	2 610	18 316	131		10	7/1	2	25
Children's Hospital¹	Columbus Ohio	E H Baxter	2 479	8 461	142	123	11	1/1 7/1	2	100
University Hospitals*¹	Oklahoma City	C H Hall	2,374	7,885	93	43	4	7/1	2	85
Hillcrest Memorial Hospital*¹	Tulsa Okla	H. Graham	1 671		22	8	1	7/1	2	75

Numerical and other references will be found on page 1215

18 PEDIATRICS—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
St John's Hospital*[1]	Tulsa, Okla								1	
University of Oregon Medical School Hospitals and Clinics*[1]	Portland, Ore	J B Bilderback	1,040	6,815	61	52	8	7/1	2	75
Abington Memorial Hospital*[1]	Abington, Pa	T S Wilder	378	276	11	8	2	7/1	1	50
Children's Hospital[1]	Philadelphia	J Stokes Jr	1,875	15,902	85	72	34		2	
Children's Hospital of the Mary J Drexel Home[1]	Philadelphia		1,273	11,025	8	8	2	7/1	1	50
Germantown Dispensary and Hospital*[1]	Philadelphia	P S Barba	2,225	1,404	40	16	2	7/1	1	50
Graduate Hospital of the University of Pennsylvania*	Philadelphia	J P Scott and J E Ritter	552	944	11	6	2	7/1	1	
Hahnemann Hospital*[1]	Philadelphia	C C Fischer	818	6,054	30	31	4	9/1	2	50
Hospital of the University of Pennsylvania*[1]	Philadelphia	J Stokes, Jr	475	5,320	45	42	6	Varies	2	
Hospital of the Woman's Medical College of Pennsylvania*[1]	Philadelphia	E P Bacon	765		6	5	2	7/1	2	60
Jefferson Medical College Hospital*	Philadelphia	E J Bauer	779	12,557	65	40	3		2	
Jewish Hospital*[1]	Philadelphia		710		18	11	2	7/1	1	50
Mount Sinai Hospital*[1]	Philadelphia	F Rush and I P Morris	1,607	2,233	33	30	1	7/1	1	50
Philadelphia General Hospital*[1]	Philadelphia	J W Cleland	1,737	4,548	124	64	5	7/1	2	75
St Luke's and Children's Medical Center*[1]	Philadelphia	J L Redman	1,496	4,796	16	11	2	6/1, 12/1	1	50
Temple University Hospital*[1, 55]	Philadelphia	W E Nelson	606	7,173	21	15	7	7/1		50
Pittsburgh Medical Center[1, 69]	Pittsburgh	E R McCluskey	5 720	81,870	147	91	15	7/1	2	41 66
†Western Pennsylvania Hospital*[1]	Pittsburgh	H O Flood and C Ruder	802	1,052	10	8	1	7/1	1	100
Robert Packer Hospital*	Sayre, Pa	J M Higgins	1,603	1,409	[illegible]	8	1	7/1	2	150
Charles V Chapin Hospital[1]	Providence R I	H G Calder	1,533	869	16	12	5	Varies	1	50
Rhode Island Hospital*[1]	Providence, R I	W P Buffum	1,212	4,011	26	19	2	7/1	2	50
Roper Hospital*[1]	Charleston S C	M W Beach	1,018	7,764	53	26	5	7/1	2	50
Columbia Hospital*[1]	Columbia, S C	T D Dotterer	1,044	4,117	50	20	2	7/1	2	75
T C Thompson Children's Hospital	Chattanooga, Tenn	J W Hocker	2,293	11,646	148	30	3	7/1	1	90
Knoxville General Hospital*	Knoxville, Tenn	H S Christian	2,023	708	105	24	1	7/1	1	95
Baptist Memorial Hospital*	Memphis, Tenn	W L Rucks	1,485	583	99	49	1	7/1	1	75
John Gaston Hospital*	Memphis, Tenn	F T Mitchell	1,785	7,407	67	41	0	7/1	2	
Methodist Hospital*[1]	Memphis, Tenn	C V Croswell	1,319	704	47	17	2	7/1	2	75
St Joseph Hospital*[1]	Memphis, Tenn	H J Jacobson	1,200		8	2	2	7/1	2	100
George W Hubbard Hospital of Meharry Medical College*[1]	Nashville, Tenn	F P Crump	700	8,866	76	42	8	7/1	2	100
St Thomas Hospital*[1]	Nashville, Tenn	I C Overall	2,806		29	14	1	7/1	1	150
Vanderbilt University Hospital*[1]	Nashville Tenn	A Christie	1,033	9,103	82	52	5	7/1	2	35 41
Children's Medical Center[1]	Dallas Texas	J Young and R Moore	2,747	33,248	65	20	13	7/1	2	50
University of Texas Medical Branch Hospitals*[1]	Galveston, Texas	A E Hansen	1,840	8 067	85	55	11	1/1 7/1	2	50
John Sealy Hospital*										
†Hermann Hospital*[1]	Houston, Texas	R J Blattner	630	5,325	72	45	5		1	50
Jefferson Davis Hospital*	Houston, Texas	R Blattner	3,867	19 145	175	46	4	7/1	1	25
Santa Rosa Hospital*	San Antonio Texas	S R Kaliski	1,001	3,940	125	70	2	7/1	1	110
Salt Lake County General Hospital*[1]	Salt Lake City	J Bosma	1,514	2,880	40	81	6		2	
Mary Fletcher Hospital*	Burlington, Vt	S S Corbin	355	6	12	9	1	7/1	1	50
University of Virginia Hospital*[1]	Charlottesville, Va	W W Waddell	607	5,031	70	40	4		2	60
Medical College of Virginia, Hospital Division*[1]	Richmond, Va	L E Sutton	1 433	8,215	88	48	9		2	
Children's Orthopedic Hospital[1]	Seattle	J I Durand	851	2,354	15	14	8	7/1	1	90
King County Hospital, Unit No 1 (Harborview)*[1]	Seattle	W B Seelye	2,003	2,345	68	43	2	7/1	2	90
State of Wisconsin General Hospital*[1]	Madison, Wis	J E Gonce, Jr	782	3,361	30	23	3	1/1, 7/1	2	25
Milwaukee Children's Hospital[1]	Milwaukee	F R Tanney	5 087	30,519	88	54	8	7/1	2	75
Milwaukee County Hospital*[1]	Milwaukee	W S Polacheck	2,214	5,103	24	8	3	7/1	2	175.53
Kauikeolani Children's Hospital[1]	Honolulu, Hawaii	T Yoshina	3,287	2,552	56	36	4	4/1	1	150
Bayamon District Hospital*[1]	Bayamon, Puerto Rico	J Basora	1,554	240	173	21	1	7/1	1	250

19 PHYSICAL MEDICINE

The following services are approved by the Council and the American Board of Physical Medicine Residencies in this specialty have been approved without specifying the number of years for which they are accredited The Board will give appropriate credit for training in these hospitals on an individual basis

Hospitals 42 Assistant Residencies and Residencies 55

Name of Hospital	Location	Chief of Service	Inpatients Treated	Number of Treatments	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army							
Letterman General Hospital*	San Francisco	A F White	21,801	185,112	2	1/1, 7/1	n
†Fitzsimmons General Hospital*	Denver	H B Luskombe	21,090	251,585	4		n
Army Medical Center*	Washington, D C	E M Smith	8,676	134,137	6	7/1	n
Veterans Administration							
†Veterans Admin Hospital[1]	Ft Logan, Colo	F J Fricke	4,610	58,879	1		n
Veterans Admin Hospital	Chamblee, Ga	G D Williams	4,923	39,181	1	7/1	n
Veterans Admin Hospital	Hines Ill	L B Newman	20,052	472,950	2	1/1, 7/1	n
Veterans Admin Hospital	New Orleans	S Winokur	1,107	49,815	1	7/1	n
Veterans Admin Hospital[1]	Framingham, Mass	F Friedland	9,000	24,000	2	7/1	n
Veterans Admin Hospital[1]	Jefferson Bks, Mo	S Mead	4,046	53,920	2	7/1	n
†Veterans Admin Hospital[1]	New York City	K Harpuder	12,013	279,817	3	1/1, 7/1	n
Veterans Admin Hospital[1]	Cleveland	H T Zankel	2,452	105,000	2	7/1	n
†Veterans Admin Hospital	Aspinwall, Pa	S Machober	1,903	62,792	1	7/1	n
†Veterans Admin Hospital	Portland, Ore	E W Fowlks	4,395	96 766	1	1/1, 7/1	n
Nonfederal							
Los Angeles County Hospital*[1]	Los Angeles	O L Huddleston	33,600	133,094	1	Varies	165
White Memorial Hospital*	Los Angeles	F B Moor					120

Numerical and other references will be found on page 1215

19 PHYSICAL MEDICINE—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Number of Treatments	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Stanford University Hospitals*[1]	San Francisco	W H Northway		6,633		7/1	50
University of Colorado Medical Center Colorado General Hospital*[1]	Denver	H L Dinken	2 322	25 088	1	7/1	75
†Emory University Hospital*	Emory University Ga	R L Bennett	9 848	20 260	1	7/1	50
†Georgia Warm Springs Foundation	Warm Springs Ga		880	1 108	2		
Cook County Hospital*[1]	Chicago	D Kobak	3 357	33,282		1/1 7/1	
Michael Reese Hospital*[1]	Chicago	C O Molander	1 607	19 443	1	Varies	25
Northwestern University Medical School	Chicago		13,284	34,813			
University of Kansas Medical Center*	Kansas City Kan	D L Ro e	11 684	81,838	1	7/1	100
†Massachusetts General Hospital*	Boston						
University of Minnesota Hospitals*[1]	Minneapolis	M Knapp	15,391	21,885	4		105
Mayo Foundation	Rochester Minn	F H Krusen			9	Varies	92.50
Barnes Hospital*	St Louis		820	10 951		7/1	25
†Bellevue Hospital Div III—New York University*	New York City						
Goldwater Memorial Hospital*[1]	New York City		2 799	124,357			
Hospital for Joint Diseases*[1]	New York City	I Weiss	76 070	93 020	1	7/1	40
Hospital for Special Surgery	New York City	K G Hansson		41 111			
Montefiore Hospital for Chronic Diseases*[1]	New York City	R. Harpuper					
Mount Sinai Hospital*	New York City	W Bierman				7/1	50
New York City Hospital*[1]	New York City	F K Safford Jr	955	26 418			
†Presbyterian Hospital*[1]	New York City	W B Snow	70 405	191 021	2	1/1	41 66
St Luke's Hospital*	New York City	R Muller	1,202	120 904	1	7/1	50
†Rehabilitation Hospital[1]	W Haverstraw N Y	M Hoberman	822	291 115	1		200
Cleveland Clinic Hospital[1]	Cleveland	S G Gamble	17,885	17,884	1	7/1	135
Hospital of the University of Pennsylvania*[1]	Philadelphia	G M Piersol	1 390	15 575	1	Varies	100
Philadelphia General Hospital*[1]	Philadelphia		8 073	21 769			
Medical College of Virginia Hospital Division*[1]	Richmond, Va	F A Hellebrandt	3 787	34 009			
State of Wisconsin General Hospital*[1]	Madison Wis	H D Bowman	8 [illegible]83	45 840			

20 PLASTIC SURGERY

The following services are approved by the Council and the American Board of Plastic Surgery Residencies in this specialty have been approved without specifying the number of years for which they are accredited The Board will give appropriate credit for training in these hospitals on an individual basis

Hospitals 22 Assistant Residencies and Residencies 39

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Veterans Administration									
Veterans Admin Hospital	Hines Ill	P Greeley	582		0		1	1/1 7/1	n
Veterans Admin Hospital[1]	New York City	H Conway	503	408	8	2	4	1/1 7/1	n
Veterans Admin Hospital	Aspinwall Pa	W L White	408		2	1	1	7/1	n
Veterans Admin Center[1]	White River Jct Vt	R C Tanzer	111				1	7/1	n
Nonfederal									
Franklin Hospital*[1]	San Francisco	H M Blackfield	402		1	1	1	7/1	100
†University of Kansas Medical Center*	Kansas City Kan	D W Robinson	339		7	6	1	7/1	100
Charity Hospital of Louisiana*[1]	New Orleans	N Owens & W R Metz		3 482			2	7/1	25
Mayo Foundation	Rochester Minn	G B New					6		92.50
Barnes Hospital*	St Louis	J B Brown	884		1		1	7/1	25
Hospital of St Barnabas and for Women and Children*[1]	Newark N J	L. A Peer	716	568			2	1/1	
Albany Hospital*[1]	Albany N Y	W B Macomber	285	203	1	1	1	7/1	41.66
Kings County Hospital*[1]	Brooklyn	W Coakley	1,390	2 909	36	5	2	7/1	80
New York Hospital*[1]	New York City	H Conway	161		1		1	7/1	25
Presbyterian Hospital*[1]	New York City	J P Webster	414	3 608			4	1/1 7/1	100
Strong Memorial Rochester Municipal Hospitals*[1]	Rochester N Y	F O J Young	299	412			1	7/1	41 66
†University Hospitals*	Oklahoma City	J F Burton	219	770	5	2	1	7/1	35
Allentown Hospital*	Allentown, Pa		351	321			1		
Graduate Hospital of the University of Pennsylvania*	Philadelphia	R H. Ivy	179	21			1	7/1	
†Jefferson Medical College Hospital	Philadelphia	T A Shallow	306	107	1	1	2		
Pittsburgh Medical Center*[1] [69]	Pittsburgh.								
University of Texas Medical Branch Hospitals	Galveston, Texas	T G Blocker	684	1 426	11	5	8	7/1	75
†State of Wisconsin General Hospital*[1]	Madison Wis	W Slaughter	381		8	1	2	1/1 7/1	25

21 PREVENTIVE MEDICINE AND PUBLIC HEALTH

Standards are being prepared for the evaluation of residency training in public health A preliminary list of approved facilities will be published in the 1951 Internship and Residency Number

22 PROCTOLOGY

The following services are approved by the Council and the American Board of Proctology Residencies in this specialty have been approved without specifying the number of years for which they are accredited The Board will give appropriate credit for training in these hospitals on an individual basis

Hospitals 10 Assistant Residencies and Residencies 18

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Nonfederal									
Mercy Hospital Loyola University Clinics*[1]	Chicago	C L Martin	234	516			1	7/1	25
Mayo Foundation	Rochester Minn	L A Buie					6		92.50
Millard Fillmore Hospital*	Buffalo	H C Guess	375	5	1		1	7/1	50
Youngstown Hospital*[1]	Youngstown Ohio	P J Fuzy	410	59	7	2	1	7/1	75

Numerical and other references will be found on page 1215

22 PROCTOLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Allentown Hospital★	Allentown, Pa	M Kleckner	520	114	4	2	1	7/1	100
†Jefferson Medical College Hospital	Philadelphia	T A Shallow	537	2,804	4	1	1		
Temple University Hospital★[1]	Philadelphia	H E Bacon	934	1,019	12	6	3	7/1	50
Pittsburgh Medical Center★[1, 60]	Pittsburgh	K Zimmerman	284	505				7/1	41 67
Reading Hospital★[1]	Reading, Pa	F G Runyeon	508	345	7	4	1	7/1	100
†Milwaukee County Hospital★[1]	Milwaukee	A G Schutte	288	980	17	10	3	7/1	150 58

23 PSYCHIATRY

The following services are approved by the Council and the American Board of Psychiatry and Neurology
Hospitals, 231 Assistant Residencies and Residencies, 1,754

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital★	San Francisco	E B Litteral	1,932	3,636			20	1/1, 7/1	3	n
†Fitzsimmons General Hospital★	Denver	D B Peterson	1,462	184			15	1/1, 7/1	3	n
Army Medical Center★[15]	Washington, D C	L R Inwood	2,985	2,624			20	7/1	3	n
United States Navy										
U S Naval Hospital★[1]	Bethesda, Md	G N Raines	1,414	290	7	6	8	Varies	3	n
U S Naval Hospital★[7]	Philadelphia	F F Wildebush						1/1, 7/1	2	n
United States Public Health Service										
U S Public Health Service Hospital[1]	Lexington, Ky	M A Diamond	3 856		21	18	10	7/1	2	n
U S Marine Hospital[1]	New York City	J L Baker	2,409	652	13	4	9	7/1	2	n
U S Public Health Service Hospital[1]	Fort Worth, Texas	E W Green	2,664		20	9	11	7/1	2	n
Federal Security Agency										
St Elizabeths Hospital★[1]	Washington, D C	W. Overholser	8,024		446	305	21	7/1	3	n
Veterans Administration										
Veterans Admin Hospital[1]	N Little Rock, Ark	E S Chappell	5,041		137	104	3	7/1	3	n
Veterans Admin Center★[1]	Los Angeles		2,838		152	94	34	1/1, 7/1	3	n
Veterans Admin Hospital[1]	Palo Alto, Calif	J J Prusmack	2,200	6,077	40	23	40	1/1, 7/1	3	n
†Veterans Admin Hospital★[1]	Van Nuys, Calif	J Jacobs	253	320	10	9		1/1, 7/1	3	n
†Veterans Admin Hospital[1, 35]	Fort Lyon Colo	W M Gysin	1,177		1		9	1/1, 7/1	2	n
†Veterans Admin Hospital[1]	Augusta, Ga	W V Walsh	1,410	2,733	29	14	1	1/1, 7/1	2	n
†Veterans Admin Hospital[1]	Downey Ill	A Rodriguez	2,512		33	20	9	1/1	2	n
Veterans Admin Hospital	Hines, Ill	F G Gerty	345		21	10	18	1/1, 7/1	3	n
†Veterans Admin Hospital[1]	Knoxville, Iowa	W W Bourke	1,890	276	42	29	3	Varies	2	n
Veterans Admin Hospital[2]	Topeka, Kan	E Feldman	2,377		24	17	95	7/1	3	n
Veterans Admin Hospital	Lexington, Ky	E W Straus	1,160		42	23	4	4/1, 7/1	3	n
Veterans Admin Hospital[1, 43]	Louisville Ky	D F Moore	658	1,571	11	3	6		3	n
Veterans Admin Hospital[1]	New Orleans	H T Posey	406	264	4	4	2	7/1	2	n
Veterans Admin Hospital[1]	Perry Point Md	W G Reese	2,935		76	44	31	7/1	3	n
Veterans Admin Hospital[1]	Bedford, Mass	J L Hoffman	1,871		55	25	22	1/1, 7/1	1	n
Veterans Admin Hospital (West Roxbury)	Boston	S Tartakoff	339	92	15	9		1/1, 7/1	1	n
†Veterans Admin Hospital[1]	Framingham, Mass	W Bloomberg	852		4	2	22	7/1	3	n
Veterans Admin Hospital	Fort Custer, Mich	A L Olsen	2,712		81	49	9	1/1, 7/1	3	n
†Veterans Admin Hospital[1]	Gulfport Miss	J J Blasko	976		43	34	8	7/1	2	n
Veterans Admin Hospital[1]	Jefferson Bks , Mo	A K Baur	699		11	7	8	7/1	3	n
†Veterans Admin Hospital[1]	Lyons, N J	A Paunez	2,460		73	35	10	7/1	3	n
Veterans Admin Hospital[1]	Canandaigua, N Y	E M Levy	1,093	1 603	57	37	4	7/1	2	n
Veterans Admin Hospital[1]	New York City	T A O Rennie	687	6,064	5	3	26	1/1, 7/1	3	n
†Veterans Admin Hospital[1]	Northport, N Y						20	7/1		n
Veterans Admin Hospital[1]	Cleveland	L Hallo	718	557	2	1	12	7/1	3	n
†Veterans Admin Hospital[1]	Coatesville, Pa	A O Hecker					40	7/1	3	n
†Veterans Admin Hospital	Memphis, Tenn	E Schmidhofer	738	1,100	7	4	3	7/1	3	n
†Veterans Admin Hospital[1]	Waco, Texas	W L Ford	3,266		87	50	8	1/1, 7/1	2	n
Veterans Admin Hospital[1]	Richmond Va	B Nagler	787		1	1	4	7/1	3	n
†Veterans Admin Hospital[1]	Roanoke, Va		3,017		84	53	13	7/1	3	n
Veterans Admin Hospital[1]	Tomah, Wis	N C Mace	944	1,354	44	21	8	1/1	3	n
Nonfederal										
Jefferson Hillman Hospital★[1]	Birmingham, Ala	F A. Kay	524	860	2		2	7/1	1	50
Herrick Memorial Hospital★[1]	Berkeley, Calif	A E Bennett	326	243	1	1	2	7/1	1	50
Compton Sanitarium[1]	Compton, Calif	G E Myers	530		3		4	7/1	2	250
Napa State Hospital[1]	Imola, Calif	W A Oliver	5,400	800	397	70	2	1/1	1	255
Livermore Sanitarium[1]	Livermore, Calif	O B Jensen	752	500	8	1		7/1	1	300
Los Angeles County Hospital★[1]	Los Angeles	M G Carter	7 596	307	117	24	2	Varies	3	165
Patton State Hospital[1]	Patton, Calif	O L Gericke	3,900		444	96	1		1	255
Langley Porter Clinic Hospital[1]	San Francisco	K M Bowman	290	14,119	3	2	37	1/1, 7/1	3	255
Mount Zion Hospital★	San Francisco	N Reider	7	5,593			2	1/1, 7/1	2	50
Stanford University Hospitals★[1, 7]	San Francisco	G S Johnson								
University of California Hospital★[1]	San Francisco	K M Bowman		8,156			1	8/1	3	75
Pasadena Sanitarium	S Pasadena, Calif	C H Godard	625	900	6	1	1	10/1	1	250
Pacific Colony[1]	Spadra, Calif	G Tarjan	2,357	94	74	54	3	7/1	1	255
University of Colorado Medical Center Colorado Psychopathic Hospital	Denver	F C Ebaugh	1,012	7,039	18	11	35	7/1	3	125
Colorado State Hospital[1]	Pueblo, Colo	J L Rosenbloom	1,107		454	222	12	7/1	2	275
Institute of Living (Neuro psychiatric Institute of the Hartford Retreat)[1]	Hartford, Conn	C C Burlingame	1,224		10	2	10		3	275
Connecticut State Hospital[1]	Middletown, Conn	B Simon	3,071	2,075	278	73	8		2	235
†Silver Hill Foundation	New Canaan, Conn	W B Terhune	294	224			1		1	400
Grace New Haven Community Hospital New Haven Unit (University Service)★[1]	New Haven, Conn	F Redlich	350	2,518	3	3	8	7/1	3	40
Fairfield State Hospital[1]	Newton, Conn	J E Oltman	3,414	25	257	193	5	Varies	2	235
Norwich State Hospital[1]	Norwich, Conn	M C Taylor	3,596	251	263	69	6	Varies	2	235
Delaware State Hospital[1]	Farnhurst, Del	M A. Tarumianz	1,272	3,267	100	83	6		2	125

Numerical and other references will be found on page 1215

23 PSYCHIATRY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Gallinger Municipal Hospital*[1]	Washington D C	G J Gordon	3,809		47	12	13	7/1	1	100
Georgetown University Hospital*	Washington D C								2	
†George Washington University Hospital*[1]	Washington D C	W. Overholser	554	605	1					
Duval Medical Center*	Jacksonville Fla	S G Bedell	449		6	3		7/1	1	125
University Hospital*	Augusta Ga	H M. Cleckley	563	896	1		2	7/1	2	40
†Alton State Hospital[1]	Alton Ill	A Simon	1,853	312	239	31	2	1/1	1	200
†Anna State Hospital[1]	Anna Ill	C D Nobles	2 921	244	301	24			1	
Chicago State Hospital[1]	Chicago	I Spinka	7 135	2,055	401	129	8	7/1	2	200
Cook County Hospital*[1]	Chicago	C A Neyman	10,219		224	15	4	1/1 7/1	3	125
Illinois Neuropsychiatric Institution*[1]	Chicago	F J Gerty	281	6 796			7	7/1	3	55
Loretto Hospital*	Chicago	J J Madden	508	1,299	2	2	2	7/1	1	200
Mercy Hospital*[1]	Chicago									
Michael Reese Hospital*[1]	Chicago	R. R. Grinker	274	5,096	1		12	10/1	3	
St Luke's Hospital*[1]	Chicago							7/1	1	25
University of Chicago Clinics*[1]	Chicago	H Brosin	169	7 353			9	7/1	3	100
Veterans Rehabilitation Center	Chicago	D Slight	127	12 346			7	7/1	1	200
Wesley Memorial Hospital*[1]	Chicago	T T Stone	585		1		1	7/1	1	25
†Dixon State Hospital[1]	Dixon Ill	C K. Bush	4 656	100	158	29	1	Varies	1	200
Elgin State Hospital[1]	Elgin Ill	E Liebert	8 613	2,665	534	180	18	Varies	3	200
†Kankakee State Hospital[1]	Kankakee, Ill	G M Cowan	1 670	1 035	298	136	4		1	200
†Lincoln State School and Colony[1]	Lincoln Ill	W W Fox	4 701		87	18	3	9/1	1	150
Manteno State Hospital[1]	Manteno Ill	M Wallenberg	2,693	1 903	610	32	6		2	200
Peoria State Hospital[1]	Peoria Ill	W H Baer	2 617		203	69	3	1/1 7/1	2	200
North Shore Health Resort[1]	Winnetka Ill	S Liebman	387	338	10	6	2	Varies	1	
Central State Hospital	Indianapolis	J V Cohn	25	6			3	1/1	2	375
Indianapolis General Hospital*[1]	Indianapolis	E W Mericle	798	1 471	29	14	3	7/1	3	60
Norways Sanatorium[1]	Indianapolis		492	1 060	9		2	1/1 7/1	2	290
Logansport State Hospital[1]	Logansport Ind	J A Larson	2 244		166	29			2	
Cherokee State Hospital[1]	Cherokee Iowa	W C Brinegar	1 632		146	54	2	7/1	1	291 66
Iowa State Psychopathic Hospital[1]	Iowa City	W R. Miller	373	2 402			8	7/1	3	150
Menninger Sanitarium[1]	Topeka Kan	L L Robbins	170	24 602			8	1/1 7/1	3	275
Louisville General Hospital*[1]	Louisville Ky	S S Ackerly	640	2 228	5	8	2	7/1	2	45
Charity Hospital of Louisiana*[1]	New Orleans		770	10 102	29	7	3	7/1	3	25
De Paul Sanitarium*[1]	New Orleans	J W Bick	1,054	165	13	4	2		3	300
Johns Hopkins Hospital*	Baltimore	J C Whitehorn	258	4,521	1	1	11	7/1	3	41 66
†Seton Institute[1]	Baltimore	D Ross	647	100	14	5	9	7/1	2	125
Spring Grove State Hospital	Catonsville Md	I Tuerk	3,309	63	151	87	17	7/1	2	359
†Chestnut Lodge Sanitarium[1]	Rockville Md.	D M Bullard	123	330	2	1	6	7/1	2	145
Springfield State Hospital[1]	Sykesville Md	M V Beyer	8 715	2,338	167	52	5	7/1	2	166
Sheppard and Enoch Pratt Hospital[1]	Towson Md	H M Murdock	423	87	9	4	6	7/1	2	150
Beth Israel Hospital*[1]	Boston	G Bibring	226	2 001			1	10/1	1	300
Boston Psychopathic Hospital[1]	Boston	H C Solomon	1,255	8 546	8	4	12		3	170
Boston State Hospital[1]	Boston	E V Semrad	4 459		348	63	5	7/1	2	180
Massachusetts General Hospital*	Boston								2	
†New England Center Hospital[1]	Boston	R D Adams	1 114	849			2	7/1	1	83.33
†Peter Bent Brigham Hospital*	Boston	H. M. Fox			280		8	7/1	1	
Foxboro State Hospital[1]	Foxboro Mass						2		2	
Danvers State Hospital[1]	Hawthorne Mass.	P B Hagopian	3,343		272	49	2	Varies	2	200
Medfield State Hospital[1]	Medfield Mass	T F Lindberg	1 666	245	155	26	4		2	200
Monson State Hospital	Palmer Mass	W A Hunter	1 [illegible]77	210	45		2		1	
†Austen Riggs Foundation[1]	Stockbridge Mass	R. P Knight	175	2,300	[illegible]		3	7/1	2	500
Taunton State Hospital[1]	Taunton Mass	B E Zawacki	2 [illegible]		252	[illegible]	[illegible]	Varies	2	200
Metropolitan State Hospital[1]	Waltham Mass	B Riggs and M Asekoff	2 000		116	50	2		3	200
McLean Hospital[1]	Waverley Mass.	P M Howard	443		14	10	7	1/1 7/1	2	75
Westboro State Hospital[1]	Westboro Mass	R V Hadley	2 861	750	166	15	2	Varies	2	
Worcester City Hospital*[1]	Worcester Mass	F L Nibbler	595	539	110	13	1	7/1	1	100
Worcester State Hospital[1]	Worcester Mass	D Rothschild	3 760	550	201	73	17	Varies	3	
University Hospital*[1]	Ann Arbor Mich	R W Waggoner	348	5,353	1	1	32	7/1	3	189 00
†St. Joseph's Retreat	Dearborn Mich	M. H. Hoffmann	1 304	416	18	6	2	7/1	1	300
City of Detroit Receiving Hospital*[1]	Detroit	T V Hoagland	7 284		99	56	7	7/1	3	189 08
Henry Ford Hospital*[1]	Detroit	T J Heldt	778	9,294	26	10	1	7/1	2	200
Wayne County General Hosp and Infirmary*[1]	Eloise Mich	L S Lipschutz	5,158	8 966	322	109	7	1/1 7/1	3	235
Kalamazoo State Hospital[1]	Kalamazoo Mich	C M. Schrier	3 844		278	4	17	7/1	2	415
Pontiac State Hospital[1]	Pontiac, Mich	P V Wagley	3 160	135	220	63	14	Varies	2	835
Traverse City State Hospital[1]	Traverse City, Mich	B P Sheets	2,819	1,837	242	80	8		2	335
Ypsilanti State Hospital[1]	Ypsilanti Mich	O R. Yoder	4 697	1,382	289	73	16		2	335
University of Minnesota Hospitals*[1] [59]	Minneapolis	D W Hastings	1 014	6,946	2	2	24	7/1	3	
Mayo Foundation	Rochester Minn	F J Braceland							3	92.50
†Rochester State Hospital	Rochester Minn	M O Petersen	2 493		170	62	4		1	300
State Hospital No 1	Fulton Mo	W J Cremer	2,550	75	201	36	1	7/1	2	150
Kansas City General Hospital No 1*	Kansas City Mo	M L. Bills	530	3 007	12	7	1	7/1	1	50
State Hospital No 2	St Joseph Mo	O Mullinax	2 455	208	203	48	6	1/1	2	100
Barnes Hospital*[1]	St Louis	E. F Gildea	591	8 203	4	2	18	7/1	3	25
Homer G Philips Hospital*[1] [7]	St. Louis	E F Gildea							2	98
St Louis City Hospital*[1]	St Louis	E Gildea and R. E Britt	1 011	1,258	87	28	[illegible]	7/1	3	
St Louis State Hospital[1]	St Louis	L H Kohler	3 787		181	51	13	7/1	2	200
Hastings State Hospital[1]	Ingleside Neb.	J O Nielsen	1,909	180	118	86	6	7/1	2	300
Norfolk State Hospital[1]	Norfolk Neb	G L Sandritter	1,397	1,240	73	22	1		2	300
Lutheran Hospital[1]	Omaha	R Young	1 051		6	1	2	1/1	2	150
University of Nebraska Hospital*[1]	Omaha	R H Young	236	706			5	7/1	3	75
New Hampshire State Hospital[1]	Concord N H	J L Smalldon	3 518	254	331	55	2	1/1	2	135 75
Essex County Overbrook Hospital[1]	Cedar Grove N J	S W Hamilton	3 386	321	275	77	9		2	208 33
New Jersey State Hospital[1]	Greystone Park N J	M A Curry	7,539	1 432	519		11	7/1	2	375
New Jersey State Hospital[1]	Marlboro N J	J B Gordon	4,301	1 010	281	110	1		2	130
New Jersey State Hospital	Trenton N J	H S Magee	5,239		296	73	6	7/1	2	375
Albany Hospital*[1]	Albany N Y	S E Barrera	1 478	1 038	86	21	4	7/1	3	41 66
†South Oaks Long Island Home[1]	Amityville N Y	M S Titley	199		20		1	7/1 9/1	1	150
†Craig House[1]	Beacon N Y	C L. Bennett	47	50	1		1	7/1	1	200
†Mattewan State Hospital	Beacon N Y	J F McNeill	1 679		50	14	1	4/1	1	290
Hillside Hospital[1]	Bellerose N Y	J S A. Miller	310		3		12		2	150
Binghamton State Hospital[1]	Binghamton N Y	H. S Gregory	2,725	1 194	228	74	3		2	300
Brooklyn State Hospital[1]	Brooklyn	C H Bellinger	3 421	701	580	32	12		3	304
Kings County Hospital*[1]	Brooklyn	S Parker	11 386	5,972	264	18	30	7/1	3	130
Buffalo State Hospital[1]	Buffalo	C Fletcher	3 159	15	274	82	3		2	250
Edward J Meyer Memorial Hospital*[1]	Buffalo	A L C Ulrich	1,990	1 922	45	14	7	7/1	2	100
Central Islip State Hospital[1]	Central Islip N Y	D Corcoran	9,358	3,323	507	131	7	7/1	3	304 16
Gowanda State Homeopathic Hospital[1]	Helmuth N Y	R. W Bohn	3,828	1,587	235	48	6		2	300

Numerical and other references will be found on page 1215

23 PSYCHIATRY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
†Pinewood Sanitarium[1]	Katonah, N Y	L Wender	270		2		1	7/15	1	175
Kings Park State Hospital[1]	Kings Park, N Y	A. E Soper	9,907	5,095	485	87	10		2	304 17
†River Crest Sanitarium	Long Island City, N Y	J C Kindred	93	1,872	13		2	9/1	1	250
Marcy State Hospital[1]	Marcy, N Y	N D Black	3,342	99	260	30	9		2	304 18
Middletown State Homeopathic Hospital[1]	Middletown, N Y	W A Schmitz	3,808	897	222	61	5	7/1	2	304
Bellevue Hosp, Div III—New York Univ *[1]	New York City								3	
Manhattan State Hospital[1]	New York City	N E Stein	3 960	560	921	180	14		2	304
Mount Sinai Hospital*[1]	New York City	R Kaufman	159	7,164	1	0	2	7/1	2	50
New York Hospital*[1]	New York City	C Diethelm	273	6,802	2	1	13	7/1	3	50
New York State Psychiatric Institute[1]	New York City	N Lewis	343	1,150	1	1	20	1/1, 7/1	3	304
Rockland State Hospital[1]	Orangeburg N Y		8,090	4,350	326	106	22	7/1	2	300 16
†Stony Lodge Sanitarium[1]	Ossining, N Y	B C Glueck Jr	100	950			2	9/1	1	150
Hudson River State Hospital[1]	Poughkeepsie N Y	W C Groom	5,662	896	385	90	8	7/1	2	476 66
Creedmoor State Hospital	Queens Village N Y	H A LaBurt	6 673	3,420	321	51	9	Varies	2	304 58
Rochester State Hospital[1]	Rochester, N Y	C A Kilpatrick	4,264	9,391	303	56	10	Varies	2	304
Strong Memorial Rochester Municipal Hosp *[1]	Rochester, N Y	J Romano	750	4,615	1	1	10	7/1	2	41 66
Syracuse Psychopathic Hospital[1]	Syracuse N Y	M F Brew	638	1,369	3		4		2	304
Letchworth Village*[1]	Thiells N Y		4,308	30	64	36	2		1	300
Utica State Hospital[1]	Utica, N Y	F J O'Neill	2 507	2,037	192	26	5		2	304 18
Grasslands Hospital*[1]	Valhalla N Y	F V Rockwell	1,202	1,356	29	12	7	7/1	2	125
Pilgrim State Hospital[1]	W Brentwood, N Y	H J Worthing	9 765	2 067	788	210	13		2	304 17
New York Hospital—Westchester Division[1]	White Plains, N Y	J H Wall	760		9	4	9	7/1	3	125
†Willard State Hospital[1]	Willard N Y	K Keill	3 357	812	277	20	5	9/1	2	304
Harlem Valley State Hospital[1]	Wingdale, N Y	L P O'Donnell	5 687	1,073	296	97	6	1/1	2	304 16
Duke Hospital*[1]	Durham N C	R S Lyman	355	1,894	1		10	7/1	3	83 33
†North Carolina Baptist Hospital*[1]	Winston Salem, N C	L J Thompson	592	5,738	7	5	6	7/1	2	41 66
†Windsor Hospital	Chagrin Falls, Ohio	J H Nichols	797		12	2	2	7/1	1	150
Christ Hospital*	Cincinnati	H D Fabing	566		7	2	1	7/1	1	90
Cincinnati General Hospital*[1] [50]	Cincinnati	M Levine	1,041	578	14	8	22	7/1	3	
†Cleveland Clinic Hospital[1]	Cleveland	L J Karnosh							2	135
Cleveland State Hospital	Cleveland	E H Crawfis	2,492	376	184	3	1	7/1		252
Cleveland State Receiving Hospital	Cleveland	F H Crawfis	1,350	552	53	17	1	1/1, 7/1	2	
University Hospitals*[1]	Cleveland	D D Bond	186	3,413			4	7/1	2	25
Columbus State Hospital	Columbus, Ohio	B Kovitz	3,077	822	205	91	8	7/1	2	266 66
Massillon State Hospital	Massillon, Ohio	A G Hyde	3 057	1,054	215	57	8	1/1, 7/1	2	130
Harding Sanitarium[1]	Worthington, Ohio	H Evans	525	3,564	7		3	1/1, 9/1	2	250
†Central Oklahoma State Hospital[1]	Norman Okla	D W Griffin	3,000		233	1	2		1	300
Oregon State Hospital	Salem Ore	D Brooks	2 850		349	152	2		2	150
†Allentown State Hospital[1]	Allentown, Pa	H F Hoffman	2,925	761	127	16	13	Varies	2	257 50
Danville State Hospital[1]	Danville Pa	V J Cassone	2,677	1 371	138	36	9		2	
Harrisburg State Hospital[1]	Harrisburg Pa	H C Eaton	2,090	511	170	54	5	7/1	2	357
Norristown State Hospital[1]	Norristown, Pa	A P Noyes	5 127	1,825	313	93	18		2	357 50
Friends Hospital[1]	Philadelphia	T L Dehne	308	1,199	15	7	7	7/1	2	200
Hospital of the University of Pennsylvania*[1]	Philadelphia	K E Appel		9 698			8	Varies	2	
Institute of the Pennsylvania Hospital[1]	Philadelphia	L. H Smith	390	6,116			12	7/1	3	250
Jefferson Medical College Hospital*	Philadelphia	B L Keyes	52	2,097			1		1	
Pennsylvania Hospital, Department for Mental and Nervous Diseases[1] [48]	Philadelphia	L H Smith	634		14	3	11	7/1	3	166 67
Philadelphia General Hospital*[1]	Philadelphia	J Stouffer	2,785	158	166	59	2	7/1	3	75
Philadelphia Psychiatric Hospital[1]	Philadelphia	N W Winkelman	460	1,480	3		5	7/1	2	100
Temple University Hospital*[1]	Philadelphia	O S English		7,245			5	7/1	2	50
St Francis Hospital*[1]	Pittsburgh	H L Mitchell		600	95	25	4	7/1	2	100
Pittsburgh Medical Center[1] [68]	Pittsburgh	R A. Clark	336	2,701	6	3	12	8/1	3	272.50
Warren State Hospital[1]	Warren Pa	R H Israel	3 585		289	30	10	7/1	2	257
Woodville State Hospital[1]	Woodville Pa	R J Philer	2 574	70	172	16	4	7/1	1	333
State Hospital for Mental Diseases[1]	Howard, R I	J F Regan	3,949	177	322	44	9	7/1	2	333.33
Butler Hospital[1]	Providence R. I	D G Wright	305	1,643	20	8	7	7/1	2	175
Charles V Chapin Hospital[1]	Providence R I	T L Greason	873	596	9	3	2		1	275
†Vanderbilt University Hospital*[1]	Nashville, Tenn	W F Orr	99	1,560			2	7/1	2	35 41
†Parkland Hospital*[1]	Dallas, Texas	G Witt	851	531	2	2	2	7/1	1	50
Timberlawn Sanitarium	Dallas Texas	G E Witt	509		1		1	1/1, 7/1	2	300
University of Texas Medical Branch Hospitals Galveston State Psychopathic Hospital John Sealy*[1]	Galveston Texas	T H Harris and S R. Ewalt	2,117	4,473	21	11	17	7/1 9/1	3	50
†Vermont State Hospital[1]	Waterbury, Vt	R A Chittick	1,705		111	44	1		1	280
University of Virginia Hospital*[1]	Charlottesville, Va	D C Wilson	515	1,483	3	2	6		3	75
Medical College of Virginia Hospital Division*[1]	Richmond, Va	R. F Gayle, Jr	607	2,357	2	2	3		3	
Western State Hospital[1]	Ft Steilacoom Wash	R H Rea	3 477		350	170	7	2/1, 3/1, 4/1	2	
Eastern State Hospital[1]	Medical Lake, Wash	R H Southcombe	2 626	875	195	6	4	1/1 7/1	2	200
Northern State Hospital[1]	Sedro Woolley, Wash	J W Doughty	627		205	78	2	7/1	2	305
State of Wisconsin General Hospital*[1]	Madison, Wis	W J Bleckwenn	1 012	842	8	4	8	1/1, 7/1	3	25
Milwaukee County Hosp for Mental Diseases[1]	Milwaukee	M Kasak	1 652	1,173	34	23	9	1/1, 7/1	2	150
Milwaukee Sanitarium[1]	Wauwatosa Wis	J A Kindwall			9	6	2		2	
Queens Hospital*[1]	Honolulu, Hawaii	R D Kepner	986	118	1		3	7/1	2	75

24 PULMONARY DISEASES

The following services are approved by the Council and the American Board of Internal Medicine

Hospitals 112 Assistant Residencies and Residencies 372

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army									
Fitzsimmons General Hospital*	Denver	C W Tempel	2,135	456	45	33		1/1, 7/1	n
Federal Security Agency									
Freedmen's Hospital*[1]	Washington, D C		165	6 577	51	20	3	7/1	n
Veterans Administration									
Veterans Admin Hospital*[1]	Van Nuys, Calif	J D Davis	526	4,121	35	28		1/1, 7/1	n
Veterans Admin Hospital[1]	Ft Logan, Colo	T K Gleichman	283	2,607	9	5			n
Veterans Admin Hospital	Hines, Ill	H C Sweany	625		125	65		1/1, 7/1	n

Numerical and other references will be found on page 1215

24 PULMONARY DISEASES—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1950)	Beginning Stipend (Month)
Veterans Admin. Hospital	Rutland Hghts Mass	S T Allison	1 031	850	63	28	1	7/1	n
Veterans Admin Hospital	Minneapolis	W B Tucker	531	700	22	20		7/1	n
Veterans Admin Hospital[1]	Excelsior Springs Mo	P C Bruce	541	480	26	16	3	1/1	n
Veterans Admin Hospital[1]	Castle Point N Y	J K Deegan	1 153	378	73	44	2	1/1 7/1	n
Veterans Admin Hospital[1]	Staten Island N Y	V F Woolf	267	150	30	23	2	7/1	n
†Veterans Admin Hospital	Sunmount, N Y	N D Esopo	801	436	29	13	3	1/1 7/1	n
Veterans Admin Hospital	Oteen N C	W S Schwartz	2 710	5 134	171	100	1	7/1	n
Veterans Admin Hospital	Brecksville Ohio	K E Kinber	653	1 595	37	14	5	7/1	n
Veterans Admin Hospital	Legion Texas						8		n
Veterans Admin. Hospital[1]	McKinney Texas		193		25	10	9	7/1	n
Veterans Admin Hospital	Walla Walla Wash	L S Arany	710	202	21	12	1	2/1	n
Veterans Admin Center	Milwaukee	R A Hemphill	583	917	31	23			n
Nonfederal									
Los Angeles Sanatorium[1]	Duarte Calif	A E T Rogers	436		24	8	8	7/1	250
Arrayo Del Valle Sanatorium[1]	Livermoore Calif	J T Duncan	521	776	25	0	1	7/1	100
Barlow Sanatorium[1]	Los Angeles	H W Bosworth	204	2,836	1		2	7/1	100
Bret Harte Sanatorium[1]	Murphys Calif	E P Smart	559	6 604	37	8	2	7/1	400
Olive View Sanatorium[1]	Olive View Calif	C E Babcock	2 196		156	43	16		417
San Diego County General Hospital*[1]	San Diego Calif	F P O Hara	415	2 569	45	16	1	7/1	200
San Francisco Hospital*[1]	San Francisco						4	7/1	175
Santa Clara County Hospital*	San Jose Calif	C Ianno	198	8,854	41	8	2	7/1	235
Fairmont Hospital of Alameda County[1]	San Leandro Calif	J I Eaton	162	2,812	30	11		7/1	145
Tulare-Kings Counties Joint Tuberculosis Hospital[1]	Springville Calif	W A Winn	252	1 652	11	6	3	1/1 7/1	450
National Jewish Hospital[1]	Denver	A. Hurst	510	3 122	26	17	5	7/1	100
Laurel Heights State Tuberculosis Sanatorium	Shelton Conn	E J Lynch	452	2 560	24	10	2	1/1 7/1	185
Gaylord Farm Sanatorium[1]	Wallingford Conn	W H Morriss	287	3 000	1		3	6/1	100
Tuberculosis Sanatorium (Glendale Md P O)[1]	Washington D C	D L Finucane	967		102	48	8	7/1	200
†City of Chicago Municipal Tuberculosis Sanitarium	Chicago	O L. Bettag	2 489	164 765	284	128	6	1/1 7/1	125
University of Chicago Clinics*	Chicago	R G Bloch		2,085					
Macon County Tuberculosis Sanatorium[1]	Decatur Ill	D F Loewen	143	7,847	6	6	1	1/1	250
Pleasant View Sanatorium	East St Louis Ill	W S Broker	181	4 093	32	1	1	1/1	150
Peoria Municipal Tuberculosis Sanitorium[1]	Peoria Ill	D Morse	169	2,216	19	9	1		
Rockford Municipal Tuberculosis Sanatorium	Rockford Ill.	W J Bryan	259	3 710	23	3	1	5/1	250
Lake County Tuberculosis Sanatorium[1]	Waukegan Ill	C K. Petter	05	4 985	28	18	1		
Boehne Tuberculosis Hospital[1]	Evansville, Ind	P D Crimm	477	785	32	32	1	7/1	850
Indianapolis General Hospital*[1]	Indianapolis	W S Tucker	211	2 723	51			7/1	80
Sunnyside Sanatorium	Indianapolis	F L Jenning	380	1,514	39	8	1	7/1	300
Healthwin Hospital[1]	South Bend Ind	E W Custer	259	1,225	20	5	2	Varies	250
State Sanatorium[1]	Oakdale Iowa	W M Spear	737	8 050	65	22	2		100
†Waverly Hills Sanatorium[1]	Waverly Hills Ky	A B Mullen	725		107	11	2	7/1	90
Charity Hospital of Louisiana*	New Orleans		834	10 803	176	21	4	7/1	100
Western Maine Sanatorium	Greenwood Mt Maine	L Adams	275	644	19	5			
Baltimore City Hospitals*[1]	Baltimore	H. V Langeluttig	504		93	47	4	7/1	15
Boston Sanatorium	Boston	J A Foley	1 015		124		6		
Rutland State Sanatorium[1]	Rutland Mass	P Dufault	410	2,117	59	10			
Middlesex County Sanatorium[1]	Waltham Mass	F P Dawson	573	19 484	36	19	2	7/1	370
Westfield State Sanatorium[1]	Westfield Mass	J Jovell	122	4,375	33	2	3	7/1	430
Belmont Hospital[1]	Worcester Mass	H K Spangler	280	3,842	40	10	2	1/1	125
American Legion Hospital[1]	Battle Creek Mich	J E Moody	288		54		4	7/1	350
Herman Kiefer Hospital[1]	Detroit	P T Chapman	1 840	55 281	223	112	9	7/1	385
Michigan State Sanatorium[1]	Howell Mich.	W F Fidler	653	3 018	44		5	Varies	615
Ingham Sanatorium	Lansing Mich	O J Stringer	444	18 022	20	7		7/1	200
Morgan Heights Sanatorium[1]	Marquette Mich	J R Acocks	180	3 675	14	4	1	Varies	250
William H Maybury Sanatorium[1]	Northville Mich	W L Howard	844		116	22	6	7/1	373
Oakland County Tuberculosis Sanatorium	Pontiac Mich	C P Mehas	433	1 635	26	8	4	7/1	300
Nopeming Sanatorium[1]	Nopeming Minn	G A. Hedberg	575	3,977	27	20	2	1/1 7/1	150
Glen Lake Sanatorium[1]	Oak Terrace Minn	E. S Mariette	1 029	34 780	69	85	5		125
Mississippi State Tuberculosis Sanatorium	Sanatorium Miss	H Boswell	783	2 052	32		1	7/1	200
Kansas City Municipal Tuberculosis Hospital	Kansas City Mo	G K Landis	214	195	84	19	8	5/1	150
Robert Koch Hospital[1]	Koch Mo	G D Kettelkamp	852		100	41	9	7/1	153
Homer G Phillips Hospital*[1]	St Louis	A Goldman	276	788	57	8		7/1	95
Mount St Rose Sanatorium[1]	St Louis	P Murphy	351	1,937	28	11	1	7/1	85
New Jersey Sanatorium for Tuberculosis Diseases	Glen Gardner N J	J A Smith	540	2,345	20	3	10		375
Berthold S Pollak Hospital for Chest Diseases	Jersey City N J	F Quigley	741	20 314	209	34	8		166 66
†Bergen Pines Bergen County Hospital[1]	Ridgewood N J	R R Little	688	10 074	77	11	1	1/1	200
Essex County Sanatorium[1]	Verona N J	A M. Hicks	759		119	34	9	Varies	246 66
Albany Hospital*[1]	Albany N Y	R. J Erickson	293	1,637	44	24	1	7/1	41.66
Montefiore Hospital Country Sanatorium[1]	Bedford Hills N Y	S Rothbard	230				5	1/1 7/1	100
Kings County Hospital*[1]	Brooklyn	C F Hamilton	1 220	7 755	150	10	4	7/1	150
Kingston Avenue Hospital[1]	Brooklyn	F Murray	265		52	10	3	7/1	130
Edward J Meyer Memorial Hospital*[1]	Buffalo	H G Dayman	841	1 041	172	59	2	7/1	100
Nassau County Tuberculosis Hospital[1]	Farmingdale N Y	J C Walsh	02	10 963	48	10	5		150
Hermann M Biggs Memorial Hospital[1]	Ithaca N Y	N S Lincoln	409	9 187	29	10	4	7/1	250
Triboro Hospital[1]	Jamaica N Y	R H Bennett	1 149	8 795	120	51	12		80
†Niagara Sanatorium[1]	Lockport N Y	A N Aitken	340	5,282	34	10	2		248
Bellevue Hospital Division I—Columbia University*	New York City								
Lenox Hill Hospital*[1]	New York City	G Thorburn	72	1,345	1		1		50
Metropolitan Hospital*[1]	New York City	I G Epstein	718	5 346	140	21	6	7/1	130
Montefiore Hospital for Chronic Diseases*[1]	New York City	S Rothbard	332		34	18	5	1/1 7/1	50
Morrisania City Hospital*[1]	New York City	E H Rubin					1	7/1	80
St Josephs Hospital for Chest Diseases	New York City	F J McCarthy	720		51	15	4	7/1	175
Seton Hospital	New York City								
Homer Folks Tuberculosis Hospital[1]	Oneonta N Y	R Horton	438	9 025	41	20	4	7/1	300
Municipal Sanatorium[1]	Otisville N Y.	J S Edlin	1,382		5	2	7	1/1 7/1	150
Ray Brook State Tuberculosis Hospital[1]	Ray Brook, N Y	H. A Bray	638	6 165	30	9	5	1/1 7/1	
Iola Monroe County Tuberculosis Sanatorium[1]	Rochester N Y	F Bridge	656	18 791	91	54	6	7/1	266 66
Schenectady County Tuberculosis Hospital[1]	Schenectady N Y	J M Blake	237	3,501	18	8	2	7/1	100
Sea View Hospital[1]	Staten Island N Y	G G Ornstein	2,980	680	406	57	25	1/1 7/1	130
Trudeau Sanatorium[1]	Trudeau N Y	E N Packard	433				3	Varies	50
Grasslands Hospital*[1]	Valhalla N Y	W G Childress	531	2,859	62	20	7	7/1	125
Jefferson County Sanatorium[1]	Watertown N Y	S E Simpson	56	3 221	12	5	1		175
North Carolina Sanatorium for the Treatment of Tuberculosis	McCain N C	J S Hiatt	1 061	2,811	120	27	6	1/1	50

Numerical and other references will be found on page 1215

24 PULMONARY DISEASES—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Dunham Hospital	Cincinnati	J H Skavlem	913	3,008	128	45	3	7/1	250
City Hospital*[1]	Cleveland	R C McKay	955	742	108	70	2	7/1	300
Benjamin Franklin Hospital	Columbus, Ohio	W L Potts	546	21,741	53	14	6	Varies	200
Sunny Acres, Cuyahoga County Tuberculosis Hospital[1]	Warrensville, Ohio	H G Curtis	761	52,504	45	18	6	7/1	330
†Mahoning Tuberculosis Sanatorium[1]	Youngstown, Ohio	W Newcomer	387	1,281	47	80	2	7/1	250
Eagleville Sanatorium for Consumptives[1]	Eagleville, Pa	A J Cohen	355		5	1	3	7/1	150
Pennsylvania State Sanatorium for Tuberculosis, No 3	Hamburg Pa	C L Brown and C Detterich	825	829			2	7/1	347 50
Jefferson Medical College Hospital	Philadelphia								
Philadelphia General Hospital*[1]	Philadelphia	C Heiken	1 139		336	123		7/1	75
Tuberculosis League Hospital[1]	Pittsburgh	C H Marcy	388	15,839	24	7	2	7/1	200
Oakville Memorial Sanatorium[1]	Oakville Tenn	I B Plum	724	562	103	12	2		150
Woodlawn Hospital[1]	Dallas, Texas	E Mendenhall	227		42	24	1	7/1	50
Firland Sanatorium[1]	Seattle	R Davies	1,654		95	43	2	7/1	150
Muirdale Sanatorium[1]	Milwaukee	A V Cadden	1 085		95	29	2		
Wisconsin State Sanatorium	Statesan, Wis	R H Schmidt, Jr	265		11	8	3		250
†Leahi Hospital[1]	Honolulu, Hawaii	H H Walker	1 014	2,171	58	23	5	Varies	275

25 RADIOLOGY

The following services are approved by the Council and the American Board of Radiology until July 1, 1951 As previously announced (J A M A May 14 1949, p 211) these services have been reviewed in collaboration with the American Board of Radiology to determine whether approval will be continued and to determine further the number of years of training in individual hospitals which the Board will accept in preparation for its certification examination

A revised list of approved residencies in Radiology will appear in the Educational Number of the Journal scheduled for publication in the early fall Physicians planning to apply for residency training in radiology to begin on or after July 1 1951 should consult this list in making application for appointment

Hospitals 375 Assistant Residencies and Residencies 970

Name of Hospital	Location	Chief of Service	Type of Training	Roentgenographic Examinations	X Ray Treatments	Radium Treatments	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital*	San Francisco	E A Lodmell	Rad	38 914	6,196	47	7	1/1, 7/1	2	n
Fitzsimmons General Hospital*	Denver	E Y Leaver	Roent	59 317	3 451	865	9	1/1, 7/1	1	n
Army Medical Center*[1]	Washington, D C	H I Amory	Rad	63 319	14,461	779	6	7/1	3	n
†Brooke Army Medical Center*[1]	San Antonio, Texas	C A Craig	Roent	61,251	2 412	127	6	7/1	1	n
Tripler General Hospital*	Moanalua, T H	A O Haff	Rad	41 058	1,205			7/1	3	n
United States Navy										
†U S Naval Hospital*	Long Beach Calif	G Gartenlaub	Roent	27,860	5,283	264	4		1	n
†U S Naval Hospital*	Oakland Calif	K H Vinnedge	Roent	24,313	5,658		2		1	n
U S Naval Hospital	San Diego, Calif	R C Douthat	Rad	32,264	4,525	211	2		2	n
†U S Naval Hospital*	Great Lakes Ill	I P Wood	Roent	18,250	713		2		1	n
†U S Naval Hospital*[1]	Bethesda Md	M. W Mason	Roent	27 282	2 222	65	3	Varies	1	n
†U S Naval Hospital*	Chelsea Mass	G F Fraser	Roent	25,584	2,465	15				n
U S Naval Hospital*[1]	St Albans N Y	S F Williams	Roent	20 688	2 260	11	2		2	n
U S Naval Hospital	Philadelphia	A H Staderman	Roent	29,215	1,000	6	3	1/1, 7/1	1	n
United States Public Health Service										
U S Marine Hospital*[1]	New Orleans	A Mayoral	Rad	18,488	260		1	7/1	1	n
†U S Marine Hospital*[1]	Baltimore	J E Wirth	Ther Rad	18 594	5,884	114	3	7/1	1	n
†U S Marine Hospital*[1]	Stapleton, S I, N Y	W M Sennott	Roent	35,072	2,422		3	7/1	1	n
Federal Security Agency										
Freedmen's Hospital*[1]	Washington, D C	O H Kelley		15,498	4 920	28	2			n
Veterans Administration										
Veterans Admin Center*[1]	Los Angeles	C W McClanahan	Rad	51,526	12,982	265	7	1/1	3	n
†Veterans Admin Hospital	San Francisco	W W Saunders	D R	19,258	213	6	2	7/1	1	n
Veterans Admin Hospital*[1]	Van Nuys, Calif	E P Bugbee and I Frank	D R	52,077	1,263	25	5	1/1, 7/1	1	n
Veterans Admin Hospital[1]	Fort Logan, Colo	C F Ingersoll	D R	15,716			6	7/1	1	n
†Veterans Admin Hospital	Newington, Conn	A G Ansprenger	Rad	26 048			2	7/1	1	n
Veterans Admin Hospital[1]	Washington, D C	S R Bersack	Rad	10 551	1,816	18	3	7/1	2	n
†Veterans Admin Hospital	Chamblee, Ga	C A Priviteri	Roent	19,009	6 416	4	3	7/1	1	n
Veterans Admin Hospital	Hines Ill	F L Hussey	Rad	126,540	19 569	191	10	1/1, 7/1	3	n
†Veterans Admin Hospital[1]	Indianapolis	R T Levin	D R	11,311	657	11	3	1/1, 7/1	1	n
Veterans Admin Center	Des Moines Iowa	W Henkin	Rad	26,604	1,002			7/1	1	n
†Veterans Admin Center[1]	Wadsworth, Kan	F J Mantell	D R	50,580	18 656		4	1/1, 7/1	1	n
Veterans Admin Hospital	Wichita Kan	R F Hines		10,455	541	20	1	1/1, 7/1		n
†Veterans Admin Hospital[1]	Louisville, Ky	D Shapiro	D R	33,110	3,104	30	3		1	n
†Veterans Admin Hospital[1]	New Orleans	L Raider	D R	32,075	4,304	2	3	7/1	1	n
†Veterans Admin Hospital	Fort Howard Md	J T Brackin, Jr	D R	10,503	37		2	7/1	1	n
†Veterans Admin Hospital	Boston (West Roxbury)	F Wissing	D R	16 418	1 942	2	2	1/1, 7/1	1	n
Veterans Admin Hospital[1]	Framingham, Mass	D Kornblum	Rad	24,000	60		4		1	n
†Veterans Admin Hospital[1]	Dearborn, Mich	E E Levine	D R	28,844	2,676		4	7/1	1	n
†Veterans Admin Hospital[1]	Minneapolis	B O Loughlin and D L Fink	D R	46,781	3,600	52	6	7/1		n
Veterans Admin Hospital[1]	Jefferson Bks, Mo	S Kamberg	Rad	22,639	3,534	24	6	7/1	1	n
†Veterans Admin Hospital[1]	New York City	A Sheinmel	Roent	68,888	15,444	89	6	7/1	1	n
Veterans Admin Hospital[1]	Staten Island, N Y	F K Brunner		29,859	2,901	27	3	7/1		n
†Veterans Admin Hospital[1]	Cleveland	M D Sachs	D R	35 293	4 120	47	4	7/1	1	n
Veterans Admin Hospital	Dayton Ohio	F A Bavendam		89,163	0	0	1			n
†Veterans Admin Hospital	Portland Ore	K C Hardesty	Roent	19,470	4,718	3	1	1/1, 7/1	1	n
†Veterans Admin Hospital	Aspinwall, Pa	G H Alexander	D R	23,230	1,862	6	5	1/1, 7/1	1	n
†Veterans Admin Hospital	Memphis, Tenn	W H Medel	D R	48,292	4 855	17	6	7/1	1	n
Veterans Admin Hospital	Nashville, Tenn	K R Delbert	D R	7,076	1,671	129	2	7/1	1	n
†Veterans Admin Hospital[1]	Dallas, Texas	J L Sazama	Rad	1,224	123	1	3	1/1	1	n

Numerical and other references will be found on page 1215

25 RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training	Roentgenographic Examinations	X Ray Treatments	Radium Treatments	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
†Veterans Admin Hospital ¹	McKinney Texas	B K Lovell	D R.	26,566	2 119	47	3	7/1	1	n
†Veterans Admin Hospital	Temple Texas	I J Zimmerman	D R	19 935	45		2		1	n
†Veterans Admin Hospital ¹	Salt Lake City	H. H Plenk	D.R	13 100			2	7/1	1	n
Veterans Admin. Center ¹	White River Jct Vt	N W Loud		30 761	516		2	1/1		n
†Veterans Admin Center	Milwaukee	T. J Pfeffer	D R	35 600	2 785	1	3	7/1	1	n
Nonfederal										
Carraway Methodist Hospital*	Birmingham Ala	L E Sorrell and E B Teague		7 441	3 010	80		7/1	1	150
Jefferson Hillman Hospital*¹	Birmingham Ala	B Carter	Rad	26 406	9 444	120	4	1/1 7/1	1	50
St Monicas Hospital and Health Center*¹	Phoenix Ariz	J Foster		5 410	1 919	14	1	7/1	1	150
†Tucson Medical Center*¹	Tucson Ariz.	A Present	Rad	4,822	511	26				
University Hospital*¹	Little Rock Ark	I Meschan	Roent	15 718	8,878	53	5	7/1	3	75
San Joaquin General Hospital*¹	French Camp Calif	A M Cove	Roent	29,580	1 980	17	1	7/1	1	220
General Hospital of Fresno County*¹	Fresno Calif	C L Ould	Rad	12,860	1,112		1	7/1	1	218
Seaside Memorial Hospital*¹	Long Beach Calif	H J Prichard	Rad	11,290	5 496	33	1	7/1	1	150
Cedars of Lebanon Hospital*¹	Los Angeles	E Freedman and H L Jaffee	Rad	16 367	8 437	75	2	7/1	1	75
Hospital of the Good Samaritan*¹	Los Angeles	R. T Taylor	Rad	16 081	4 907			7/1	1	150
Los Angeles County Hospital*¹	Los Angeles	R. A Carter	Rad	80 469	8 331	457	6	Varies	3	165
Queen of Angels Hospital*	Los Angeles	L S Goin	Rad	10,346	4,128	49	1	7/1	1	100
St Vincents Hospital*	Los Angeles	K. S Davis	Rad	8 042	1 627	35	1	7/1	3	100
White Memorial Hospital*¹	Los Angeles	W L Stilson	Rad	12,561	5 172	852	4	7/1	3	120
Highland Alameda County Hospital*¹	Oakland Calif	H H Jensen	Rad.	14 362	1 594	84	1		3	185
Permanente Foundation Hospital*¹	Oakland Calif.	M. Abel	Rad	24,878	30 027	25			1	125
Collis P and Howard Huntington Memorial Hospital*	Pasadena Calif	J F Chapman and R. S Harrison	Roent	9,582	2,400		1	7/1	2	130
Childrens Hospital*¹	San Francisco	G King	Rad	6 295	1 493	53	1	7/1	1	50
Franklin Hospital*¹	San Francisco	A. J Williams	Roent	11 345	4 035	1		7/1	1	100
Mount Zion Hospital*	San Francisco	J Levitin	Roent	6,217	488		1		1	50
St Francis Hospital	San Francisco	A. A DeLorimier		13 723	4 434	61	1	7/1		200
†St Mary s Hospital*	San Francisco	C S Capp	Roent	10,823	2 453		1	1/1		100
San Francisco Hospital*¹	San Francisco		Rad	72,222	3,278	33	6	7/1	2	175
Stanford University Hospitals*¹	San Francisco	H. S Kaplan	Rad	12,643	3,940	107	5	7/1	3	50
University of California Hospital*	San Francisco	R. S Stone	Rad	23 048	9 492	119	4		3	75
Santa Clara County Hospital	San Jose Calif	J Von Saltza	Roent	7 439	492	12	1	7/1	1	235
†Santa Barbara Cottage Hospital*	Santa Barbara Calif	M J Geyman and R. Gates	D R	5,580	3 490	21	1	7/1		100
St John s Hospital*	Santa Monica Calif	J G Conti	Rad	3 809	300	22	1	9/1		150
St. Francis Hospital and Sanatorium	Colorado Spgs, Colo	V L. Bolton	D R	5 077	8,845	9	1	7/1		125
Presbyterian Hospital*	Denver	K D A. Allen	Rad	6 147	640	43	1	7/1	3	75
St Luke s Hospital*	Denver	W P Stampfli	Rad	7,953	1 616	3	1	7/1	1	40
University of Colorado Medical Center										
Colorado General Hospital*	Denver	M H Levine	Rad	25 758	2 131	44	7	7/1	3	75
Denver General Hospital*¹	Denver	E Salzman	Rad	22,152	600	5	3	7/1	1	75
Corwin Hospital*¹	Pueblo Colo	G Unfug	Roent	9 190	163		1	7/1	2	75
†Bridgeport Hospital*	Bridgeport Conn	B M Parmelee	Rad	7 033	1 739	140	1	7/1	1	100
Hartford Hospital	Hartford Conn	R. T Ogden	Rad	25,356	10 471	73	3	7/1	3	50
Grace New Haven Community										
Grace Unit	New Haven Conn	R. M. Lowman	Rad	11,351	3 821	16	2	7/1	1	52
New Haven Unit (University Service)*¹	New Haven Conn	H. M Wilson	Rad	27 324	4 645	130	4	7/1	3	40
†Hospital of St Raphael*¹	New Haven Conn	R. Shapiro	Roent	9 172	2,437	37	2	7/1	1	75
St Mary s Hospital*¹	Waterbury Conn	S Atkins		11 180	1 403	37	1			150
†Waterbury Hospital*¹	Waterbury Conn	S Blank	Rad	8,593	1 491		2	7/1		100
†Delaware Hospital*	Wilmington Del	W M Lattomus	D R	13,332	3 370	108	1	7/1	2	110
Wilmington General Hospital*	Wilmington Del	S T Miller		5,836	0	11				
Central Dispensary and Emergency Hospital*¹	Washington D C	J E Wissler	Rad	11 665	2,551	28	2	7/1	3	100
Doctors Hospital*	Washington D C	A O Christie	Rad	20 659	9 465	191	6	7/1	3	125
†Gallinger Municipal Hospital*¹	Washington D C	R. J Terrafranca	Rad.	28 401	520	10	2	7/1	1	100
Garfield Memorial Hospital*¹	Washington D C	A. O Hampton	Rad	12,616	5,349	83			2	
Georgetown University Hospital*	Washington D C	M. Copeland	Rad	15 057	2 881	20	5	7/1	2	75
George Washington University Hospital*¹	Washington D C	W W Stanbro	Rad	11 124	1 901	40	3	7/1	1	50
Sibley Memorial Hospital*¹	Washington D C	W M Clopton	Rad	9 580	1 664	50	2	7/1	3	100
James M Jackson Memorial Hospital*¹	Miami Fla	M M Greenfield	Rad	22,119	4 085	82	1	7/1	2	60
Georgia Baptist Hospital ¹	Atlanta Ga	L Long		4,292	2 591	69	3	1/1 7/1		75
Grady Memorial Hospital*¹	Atlanta Ga	H S Weens	Rad	37,952	6 220	66	4	7/1	3	20
Piedmont Hospital*¹	Atlanta Ga	G Hrdlicka	Rad	5,249	787		1	7/1	3	75
†University Hospital*	Augusta Ga	L. P Holmes	Rad.	17,884	2 042		3	7/1	3	40
†Emory University Hospital*	Emory University Ga	T F Leigh	Rad	10,351	6,346	133	2	7/1	1	50
†Alexian Brothers Hospital	Chicago	M. Indovina	Roent	12,297	1,513		1	7/1	1	125
Augustana Hospital*	Chicago	D S Bellin	Rad.	8,843	9 346		2	4/1	3	50
Cook County Hospital*¹	Chicago	G Landau	Rad	93 464	18 228	171	3	1/1 7/1	3	65
†Edgewater Hospital*	Chicago	N S Zeitlin	Roent	11 144	1 453		1	7/1	1	200
Englewood Hospital*	Chicago	A J Rosenblate			1,497					
†Illinois Masonic Hospital*¹	Chicago	J H Gilmore	Rad.	12,243	461	6	1	7/1	1	50
†Lutheran Deaconess Home and Hospital*¹	Chicago	F Hussey	Roent	11 398	1,974			7/1	1	100
†Mercy Hospital Loyola University Clinics*¹	Chicago	W Furey	Rad	15,865	11,396	196	2	7/1	1	25
Michael Reese Hospital*¹	Chicago	R A Arens and F M Uhlmann	Rad	29 189	17 100	2,840	5		3	25
Mount Sinai Hospital*	Chicago.	J Arendt	Roent	13 457	3,358		8	7/1	2	75
Northwestern University Medical Center										
Passavant Hospital*	Chicago	R. B Lewis	Rad	9,533	968	25			3	
Presbyterian Hospital*	Chicago	F H. Squire	Rad	42,402	6,337	53	4		3	25
Provident Hospital*¹	Chicago	W P Quinn	Rad	4 883	2,525	16	3	7/1	3	50
†Ravenswood Hospital*¹	Chicago	D L Jenkinson	Rad	9,542	1 937		2		1	60
Research and Educational Hospitals*¹	Chicago	R A Harvey	Rad	44 937	13 129	850	6	7/1	3	55
†St Bernard s Hospital*	Chicago	B S Cushway	Rad						1	
†St Joseph Hospital*¹	Chicago	W E Anspach	Roent	17 234	1 129		1	7/1	1	
St Luke s Hospital*¹	Chicago	E L Jenkinson	Rad	29,961	7 790		6	7/1	3	100
University of Chicago Clinics*	Chicago	P C Hodges	Rad	24,588	9,229	168	9	1/1 7/1	3	25
Wesley Memorial Hospital*¹	Chicago	E. E Barth	Rad	28,274	2,355	47	3	7/1	2	25
†Woodlawn Hospital*¹	Chicago	L Donaldson	Roent	4 771	1 217	6	1	7/1	1	150
Evanston Hospital*	Evanston Ill	R. G Willy	Rad	8 448	2,948	58	4	7/1	3	50
†St Francis Hospital*	Evanston Ill	A O Ledoux	Rad	21 266	1 770	27		7/1	1	75
†Little Company of Mary Hospital*¹	Evergreen Park Ill.	W W Furey	D R	19,286	2,880	55	1	7/1	1	100
†Methodist Hospital of Central Illinois*	Peoria Ill	F H Decker	Rad	7,324	2,673	103	1	11/15	1	150
St. Francis Hospital*¹	Peoria Ill	P R. Dirkse	Rad.	16,309	3 855	6		7/1	2	100

Numerical and other references will be found on page 1215

25 RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training[12]	Roentgenographic Examinations	X Ray Treatments	Radium Treatments	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
†Clinic Hospital	Bluffton Ind	W S Tirman	Rad	15,054	2,502	31	3	4/1, 8/1	1	100
†St. Mary's Mercy Hospital★	Gary, Ind	C P Galanti	Roent	10,523	1,870	14		7/1	1	150
St Margaret Hospital★	Hammond Ind	J F Larrabee	Roent	7,652	1,363	15	1		2	175
Indianapolis General Hospital★[1]	Indianapolis	L A Smith	Rad	19,312	6 425	50	3	7/1	3	100
Indiana University Medical Center★[1]	Indianapolis	J A. Campbell	Rad	24 646	11,224	278	8	7/1	3	68 33
Methodist Hospital★[1]	Indianapolis	H O Ochsner	Rad	22 534	6 698	60	2		3	200
†St Elizabeth Hospital★	LaFayette Ind	R. W Currie	Rad	6,289	2 058	31	1	7/1	1	100
†Ball Memorial Hospital★[1]	Muncie, Ind	B W Stocking	Roent	10,683	3,272	24	3	7/1	1	100
Iowa Methodist Hospital★[1]	Des Moines Iowa	T A Burcham	Rad	8,185	618		1	7/1	3	75
University Hospitals★[1]	Iowa City	H D Kerr	Rad	46,455	18 045	16	6			
University of Kansas Medical Center★	Kansas City, Kan	G Tice	Rad	29 123	8,641	261	4	7/1	3	100
Wesley Hospital★[1]	Wichita, Kan	N O Nash		8,434	4 042	25	1	7/1		200
†Louisville General Hospital★[1]	Louisville, Ky	F L Pirkey	Rad	28,328	3,068	11	4	7/1	1	45
Norton Memorial Infirmary★	Louisville, Ky	J C Bell		6,952	2,215	12				
†St Joseph Infirmary★	Louisville, Ky	S F Johnson	Rad	13,726	9 289	129	3		1	75
Baptist Hospital★[1]	Alexandria La	H O Barker	Rad	6,820	6 449	380	1			
Charity Hospital of Louisiana★[1]	New Orleans	L J Menville	Rad	135,419	68,502	505	10	7/1	3	25
†Ochsner Foundation Hospital[1]	New Orleans	F H Little	Rad	9,249			3	7/1	1	125
Southern Baptist Hospital★[1]	New Orleans	L J Bristow, Jr	Rad	13,468	4,290		3	7/1	3	150
Touro Infirmary★[1]	New Orleans	F Schmidt	Roent		6 090		3	7/1	3	17 50
Shreveport Charity Hospital★	Shreveport La	G M Riley	Rad	18 684	9,241	70	3	7/1	3	60
Eastern Maine General Hospital★[1]	Bangor, Me	H A Smith		10,242	2,235	110	1	7/1		50
†Baltimore City Hospitals★[1]	Baltimore	S H Macht	Rad	35,583	1 080	188	4	7/1	1	15
Johns Hopkins Hospital★[1][17]	Baltimore	R H Morgan	Rad	67 384	10 000	204	3	7/1	3	41 66
†Sinai Hospital★	Baltimore	J O Salik	Roent	13,978	689	2	1	7/1	1	25
†Union Memorial Hospital★[1]	Baltimore	W B Firor	Rad	11,346						
University Hospital★[1]	Baltimore	W L Kilby	Rad	23,795	6,318	240	4	7/1	2	
Beth Israel Hospital★[1]	Boston	S Robins	Rad	14 264	2 196	15	3	7/1	2	41 66
Boston City Hospital★[1]	Boston	M Ritvo	Rad	80 322	4,317	60	7	Varies	3	110
Children's Hospital★[1]	Boston	F B D Neuhauser	Roent	21,493	1 870					
Faulkner Hospital★	Boston	I F Hawes		6 129	519		1			
Lahey Clinic	Boston	H F Hare	Rad	20 000	8,158	22	3	7/1	3	125
Massachusetts General Hospital★	Boston									
Massachusetts Memorial Hospital★[1]	Boston	G Levene	Roent	11 703	2,239	27	4	1/1, 7/1	1	50
New England Center Hospital[1]	Boston	A Ettinger	Rad	22,822	1 404		2	7/1	3	75
New England Deaconess Hospital	Boston	J H Marks	Rad	13,568	4 894	166	5	7/1	2	135
Peter Bent Brigham Hospital★	Boston	M C Sosman	Rad	39 405	2,230			7/1	3	
†St Elizabeth's Hospital★	Boston	W A Carey	Roent	6,826			1	7/1		75
Cambridge City Hospital★	Cambridge, Mass	F W O Brien		10 232	835	3	1	7/1	1	75
†Mount Auburn Hospital★[1]	Cambridge, Mass	R Schatzki	D R	15 794	1 549		1	4/1	1	100
Lawrence General Hospital[1]	Lawrence Mass	G V West	Rad	12,449	4,551	18			1	
Newton Wellesley Hospital★[1]	Newton, Mass	C Liebman	Roent	10 674	1,094	10	2	7/1	2	25
Quincy City Hospital★	Quincy, Mass	W S Altman	Roent	9,427	423	8	1	7/1	1	150
Salem Hospital★[1]	Salem Mass	S A Wilson	Rad	9 889	1,513	18	3	Varies	3	50
†Westfield State Sanatorium[1]	Westfield, Mass	J W Turner	Rad	11,715	5,818	53	1	7/1	1	430
†Memorial Hospital★[1]	Worcester, Mass	W J Elliott	Rad	10,277	2 054	15	1	7/1		100
St Joseph Mercy Hospital★[1]	Ann Arbor, Mich	S W Donaldson	Rad	17 331	2 400	50	4	7/1	3	125
University Hospital★[1]	Ann Arbor Mich	F J Hodges	Rad	46 606	10,826	357	14	7/1	3	139 60
Leila Y Post Montgomery Hospital★	Battle Creek, Mich	S P Burden		7,327	1,550	46	1	7/1		150
City of Detroit Receiving★[1]	Detroit	I D Harris	Roent	46,627			3	7/1	2	189 08
Grace Hospital★[1]	Detroit	H A Jarre	Rad	24,731	6,184	43	5	7/1	3	75
Harper Hospital★[1]	Detroit	L Reynolds	Rad	25 895	20 715	510		7/1	3	
Henry Ford Hospital★[1]	Detroit	H P Doub	Rad	50 596	2,236	186	5	7/1	3	200
†Herman Kiefer Hospital[1]	Detroit	O C Birkelo	Roent	50 457	180		1	7/1	1	332
Mt Carmel Mercy Hospital★[1]	Detroit	J M Grace	D R	15 451	2,430	24	1	7/1	1	150
Provident Hospital★	Detroit	W A Irwin	Rad	17 472	7 041	243	3		3	140
†Wayne County General Hosp and Infirmary★[1]	Eloise, Mich	N R Shippey	Rad	27,788	2,200	25	2	7/1	1	235
Hurley Hospital★	Flint Mich	D R Limbach	Rad	7,139	5,702	197	2	7/1	3	135
†Butterworth Hospital★	Grand Rapids Mich	R. J McCandliss	Rad	15,754	2,834	63	2	7/1	1	100
†Hackley Hospital	Muskegon, Mich	L E Holly	Roent.	11,972	3,799	33	1		1	
†Northwestern Hospital★	Minneapolis	C O Hansen	Roent	1,222	9 887	31	1	10/1	1	150
†Swedish Hospital★	Minneapolis	G T Nordin					1	7/1	1	125
University of Minnesota Hospitals★[1]	Minneapolis	L Rigler	Rad	36,965	10,708	580	11	7/1	3	125
Mayo Foundation	Rochester Minn						15		3	92 50
†St Louis County Hospital★	Clayton Mo	F W Spinzig	Rad	8,964	704		1	7/1	1	80
†Kansas City General Hospital No 1★	Kansas City Mo	L Scarpellino and D S Dann	Rad	21,913	1,872	76	2	7/1	1	50
Kansas City General Hospital No 2	Kansas City Mo	I Lockwood		16 297		24	1	7/1	3	50
†Menorah Hospital★[1]	Kansas City Mo	D S Dann	Rad	8,812	2,040	34	1	1/10	1	125
Research Hospital★[1]	Kansas City Mo	I Lockwood	Rad	83,792	11,555	617	6	7/1	3	275
St Joseph Hospital★	Kansas City Mo	C E Virden	Rad	11,330	4,489	142	1	1/1	3	150
†St Luke's Hospital★	Kansas City Mo	L. A Scarpellino	Rad	10,334	1,380	20	2	7/1	1	75
Barnes Hospital★[1]	St Louis	H Wilson	Rad	41,370	12,842	201	10	7/1	3	25
Homer G Phillips Hospital★[1]	St Louis	W E Allen, Jr	Rad	18,509	1,608	44				98
†Jewish Hospital★[1]	St Louis	P O Schnoebelen	Rad	12,306	6 077	61	1	7/1	1	100
St Louis City Hospital★[1]	St Louis	D Weir	Rad	42,806	2,913	156	5	7/1	3	
St Luke's Hospital★	St Louis	O O Zink	Rad	8 542	1,536	139	1		3	75
St Mary's Group of Hospitals★	St Louis	L Santo	Rad	26 483	2,635	157	3	7/1	3	35
Creighton Memorial, St Joseph's Hospital★[1]	Omaha	J F Kelly	Rad	25,597	2 551	27	3	7/1	3	
†Nebraska Methodist Hospital★	Omaha	H B Hunt	Rad	7,901	4,878	85	1	11/1	1	100
University of Nebraska Hospital★[1]	Omaha	H B Hunt	Rad	7,038	2 622	89	5	7/1	3	75
†St Mary's Hospital[1]	Reno, Nev	M J Thorpe	Roent	3 035	102		1	7/1	1	500
Mary Hitchcock Memorial Hospital★[1]	Hanover, N H	L K Sycamore	Rad	20,409	3 683	149	3	7/1	2	150
†Atlantic City Hospital★	Atlantic City, N J	R A Bradley	Rad	10,191	3,003	70				50
†Jersey City Hospital★[1]	Jersey City, N J	H J Perlberg	Rad	36,839	8,519	196	4		1	35
†Monmouth Memorial Hospital★[1]	Long Branch, N J	W G Herrman	Rad	5 374	560	26	1	7/1	1	150
Hospital of St Barnabas for Women and Children★[1]	Newark, N J	P J Gianquinto								
Newark Beth Israel Hospital★	Newark, N J	N J Furst	Rad	7,978	4,975	1,923	1	7/1	1	100
Newark City Hospital	Newark, N J	P Santora		16 634	2 040	24	1			60
†Orange Memorial Hospital★[1]	Orange, N J	W H Seward	Rad	13 178	6,153	33	1	7/1	1	100
†Newcomb Hospital	Vineland, N J	J G Cohen	D R						1	
†Albany Hospital★[1]	Albany, N Y	W P Howard	Roent	21,433	2,682	162	1	7/1	1	41 66
†Beth El Hospital★[1]	Brooklyn	M Dannenberg	Roent	8,871	1,065	78	1	7/1	1	100
†Brooklyn Cancer Institute	Brooklyn	W E Howes		7,597	7,118	392	4	7/1	1	75
Brooklyn Hospital★[1]	Brooklyn	J H Wentworth	Rad	11,278	1,893	133	2	7/1	2	75

Numerical and other references will be found on page 1215

25 RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training[12]	Roentgenographic Examinations	X Ray Treatments	Radium Treatments	Asst. Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Jewish Hospital*[1]	Brooklyn	M. G Wasch	Rad	19 918	3,372	81	3	7/1	3	30
Kings County Hospital*[1]	Brooklyn	B Ehrenpreis	D R Ther Rad	101 604	1 669	175	4	1/1 7/1	3	80
Long Island College Hospital*[1]	Brooklyn	A L. L Bell	Rad	18 640	5,220	68	3	7/1	3	50
†Maimonides Hospital*[1]	Brooklyn	L A Held and L Nathanson	Roent	6 036	719	17	2	7/1	1	75
Methodist Hospital*[1]	Brooklyn	G C Cramp	Rad	29,880	1,541	103	2	7/1	2	50
Buffalo General Hospital*	Buffalo	G C Culver	Roent	22,700	9 268	163				
Edward J Meyer Memorial Hospital*[1]	Buffalo	E G Eschner	Rad	34 021	3 798	81	3	7/1	3	100
Roswell Park Memorial Institute [1]	Buffalo	W T Murphy		6 032	49 143	721				
Clifton Springs Sanitarium and Clinic [1]	Clifton Springs N Y	G S Schwarz	D R	5,916	1 799	114	2		1	50
Meadowbrook Hospital*[1]	Hempstead N Y	J J La Vine	Rad	9 069	2 743	12	1	7/1	2	184
Queens General Hospital*[1]	Jamaica N Y	I S Startz	Rad	45 349	6 978	40	3	7/1	2	
†Charles S Wilson Memorial Hospital [1]	Johnson City N Y	B D Jay	Roent	14 249	1,601	31	1	7/1	1	125
†Mount Vernon Hospital [1]	Mount Vernon N Y	L M Bond	Rad	12,867	993		1	7/1	1	200
Bellevue Hospital										
Division III—New York University	New York City		Ther Rad.						1	
Division IV—Open Division	New York City	I M Kaplan and I I Friedman	D R	124,208	8,214	1 039	3	1/1 7/1	1	80
Beth Israel Hospital*[1]	New York City	A J Bendick	Rad.	9 930	2,820	13	2	1/1 7/1	3	50
Bronx Hospital*[1]	New York City	W Snow	Rad	12,769	2,091	15	2	7/1	2	75
†Doctors Hospital [1]	New York City	A J Tillinghast	Roent	6,225	1 167		1	1/1 7/1	1	200
Flower and Fifth Avenue Hospitals*[1]	New York City	F J Borrelli	Rad	12 032	2 657	75	2	7/1	3	
French Hospital*	New York City	E M. Claiborne	Rad	13,124	1 595		1	7/1	2	100
Goldwater Memorial Hospital*[1]	New York City	H K Taylor	Roent	13 575	91		3	7/1	2	65 41
Hospital for Joint Diseases*[1]	New York City	M M Pomeranz	Rad	21,204	1 864	20	2	1/1	3	40
Lebanon Hospital*[1]	New York City	J Bower and S F Weltzner		10 130	197			7/1		100
Lenox Hill Hospital*[1]	New York City	F H Ghiselin	Roent	23 475	2,992	273	2	Varies	2	50
Lincoln Hospital*[1]	New York City	F Kraft	Rad	28 452	980	7	2	7/1	1	80
Memorial Hospital [1]	New York City	R Sherman	D R.	31 177	46 735	601	10	1/1 7/1	1	15
Metropolitan Hospital*[1]	New York City	I B Weinberg	Rad	25 998			2	7/1	2	80
Montefiore Hospital for Chronic Diseases*[1]	New York City	S Fineman	Rad				6	1/1 7/1	2	50
Morrisania City Hospital*[1]	New York City	S F Weltzner	Rad		3 048	65	1	7/1	2	80
Mount Sinai Hospital*	New York City	B S Wolf	Rad	82,539	7,972	85	5		3	
New York City Hospital*[1]	New York City	A Bachman	D R	14,817	4		2	7/1	1	180
New York Hospital*[1]	New York City	R. P Ball	Rad	80,280	9,577	50	5	9/1	3	25
New York Polyclinic Medical School and Hospital*	New York City	W H Shehadi	Rad	8 960	1,052	26	2	7/1	2	50
Presbyterian Hospital*[1]	New York City	R Golden	Rad	85 036	20,557	877	11	1/1 7/1	3	41.66
Roosevelt Hospital*[1]	New York City	C Smith	Rad	27 708	2 679		3	7/1	3	
St Luke's Hospital*	New York City	H. F Hempel	Rad	28,303	4,345	105	3	7/1	2	50
†St Vincent's Hospital*[1]	New York City	W W Maver	Rad	23 438	3,362	46	2	7/1	1	50
Sydenham Hospital*[1]	New York City	J Moseley	Roent	6 355	891	18	1	7/1	1	130
University Hospital*	New York City	C Gottlieb	Rad	10 846	5 956	573	3	1/1	2	80
United Hospital	Port Chester N Y	T S West	Roent	8 948	2 904	16	1	7/1	1	100
Geneseo Hospital*[1]	Rochester N Y	G Baron	Roent	15 016	1,358	28	1	7/1	1	91 66
Rochester General Hospital*[1]	Rochester N Y	E F Merrill	Rad	20 007	6 320	25	2	7/1	3	55
†St Mary's Hospital*[1]	Rochester N Y	A. V Winchell	Rad	8 696	1 756	18	2	7/1	1	125
Strong Memorial Rochester Municipal Hospitals*[1]	Rochester N Y	G H Ramsey	Rad	23 418	6 770	226	3	7/1	3	41 66
Ellis Hospital*[1]	Schenectady N Y	K L. Mitton	Roent	11 116	1 334		1	7/1	1	125
Sea View Hospital [1]	Staten Island N Y	A. V Shapiro	D R	19 475			1	7/1	1	130
†Crouse Irving Hospital*	Syracuse N Y	C F Potter	Roent	5 011	393		1	7/1	1	
Grasslands Hospital*[1]	Valhalla N Y	A G Debbie	Rad	15 544	4 039	58	3	7/1	3	125
Charlotte Memorial Hospital*[1]	Charlotte N C	W O A Sternbergh	Rad	12 123	1,981	55	1	7/1	1	75
Duke Hospital*[1]	Durham N C	R. J Reeves	Rad	55 054	9 941	206	7	7/1	3	83 33
Watts Hospital*[1]	Durham N C	W W Vaughan	Rad	24 083	7 571	97	1	7/1	3	50
†City Memorial Hospital [1]	Winston Salem N C	H S Adams	Roent	16,511	1,954	21	1	7/1	1	150
North Carolina Baptist Hospital*[1]	Winston Salem N C	J P Rousseau	Rad	24 910	3 910	83	4	7/1	3	41 66
†Bismarck Hospital	Bismarck N D	H M Berg	Rad	20 535	2 501	52	2		1	200
City Hospital*	Akron Ohio	F T Moore	Rad	30,962	10,286	122	2	7/1	3	100
†Peoples Hospital*	Akron Ohio	E L. Voke and J F McGreevey	Rad	10,248	6 598	46	1	7/1	1	100
Aultman Hospital*	Canton Ohio	S Larson		12 017	2 650	25				
†Mercy Hospital*	Canton Ohio	J J Douglas	Rad	20 948	3 406	76	1	7/1	1	100
Cincinnati General Hospital*	Cincinnati	H G Reineke and B Felson	Rad	39 769	1 705	70	3	7/1	3	
Jewish Hospital*[1]	Cincinnati	S Brown	Rad	16 164	2,116	63	1	7/1	3	60
City Hospital*[1]	Cleveland	H Hauser	Rad.	28,289	6 208	110	6	7/1	3	60
Cleveland Clinic Hospital [1]	Cleveland	C R Hughes	Rad	84,549	8 330	223	9	7/1	3	185
†Lutheran Hospital*[1]	Cleveland	J A Groh	Rad	8 233	3 242		1	7/1	1	50
†Mount Sinai Hospital*[1]	Cleveland	H A Mahrer	Rad	14 459	2 571	20	2	7/1	1	100
†St Alexis Hospital*[1]	Cleveland	E. P McNamee	Rad	11 017		30	1	7/1	1	75
St John's Hospital*[1]	Cleveland	D Steel		8 721	3 434		1	7/1		100
St Luke's Hospital*	Cleveland	D D Brannan	Rad	25,831	4,597	30	3	6/25	3	60
St Vincent's Charity Hospital*	Cleveland	F J O Malley	Rad	12,858	1 353	18	2	7/1	1	50
University Hospital*	Cleveland	H. L. Friedell	Rad	32 064	8 474	250	5	7/1	3	25
Ohio State University Hospital*[1]	Columbus Ohio	H J Means	Rad	21 000	5 717	60	5	7/1	3	50
†Miami Valley Hospital*[1]	Dayton Ohio	G A Nicoll	Rad	14,189	2,487	70	2	7/1	1	75
St Elizabeth's Hospital*	Dayton Ohio	H Snow								
†St Vincent's Hospital*[1]	Toledo Ohio	C E Hufford	Rad	9 328		39	1	7/1	1	
†Youngstown Hospital*[1]	Youngstown Ohio	J Heberding and E E Baker	Rad	37 470	9 760	57	3	7/1	1	75
University Hospitals*	Oklahoma City	P E Russo	Rad	18 724	11 567	160	3	7/1	1	35
†Providence Hospital	Portland Ore	S Rees	Roent	10 021	2 115		1	7/1	1	75
St Vincent's Hospital	Portland Ore	S E Rees	Rad	12 181	3 708	23	1	7/1	3	75
University of Oregon Medical School Hospitals and Clinics*[1]	Portland Ore	W Y Burton	Rad	31 095	3 795	24	4	7/1	3	75
Abington Memorial Hospital*[1]	Abington Pa	J D Zulick	Rad	16 083	2,571	84	2	7/1	3	50
Allentown Hospital*	Allentown Pa	W C Troxell		10,598	1,530		1	7/1	3	100
Bryn Mawr Hospital*	Bryn Mawr Pa	R. S Bromer	Rad	16,982	4 904	161	13		3	80
Geo F Geisinger Memorial Hospital and Clinic*	Danville Pa	O L. Hinkel	Rad	12,336	2,073	55	2	7/1	3	75
St Vincent's Hospital*	Erie Pa	R. D Bacon	Rad	9 420	950	26	1	7/1	1	50
†American Oncologic Hospital [1]	Philadelphia	W A. Newcomet	Ther Rad	1 740	8 927	193	2	7/1	1	100

Numerical and other references will be found on page 1215

25 RADIOLOGY—Continued

Name of Hospital	Location	Chief of Service	Type of Training[13]	Roentgenographic Examinations	X Ray Treatments	Radium Treatments	Asst Res and Residencies Offered[8]	Beginning of Service (1949)	Length of Approved Program (Years)	Beginning Stipend (Month)
Episcopal Hospital★[1]	Philadelphia	D A Sampson	Rad	12,687	2,579	83	1		2	
†Frankford Hospital★[1]	Philadelphia	M T Woodruff	Rad	8,190	267	24		7/1	2	200
†Germantown Dispensary and Hospital★[1]	Philadelphia	B R Young	Rad	10,033	1,872	24	1	7/1	1	50
Graduate Hospital of the University of Pennsylvania★	Philadelphia	A. Finkelstein	Rad	10 122	4,815	156	8	7/1	3	
Hahnemann Hospital★[1]	Philadelphia	J S Lehman	Rad	10,996	2,158	488	4	9/1	2	50
Hospital of the University of Pennsylvania★[1]	Philadelphia	E P Pendergrass	Rad	100,909	23,332	90	21		3	
Hospital of the Woman's Medical College of Pennsylvania★[1]	Philadelphia	J H Vastine		7,840	1,438	48	1	7/1		100
Jeanes Hospital[1]	Philadelphia	I Pendergrass	Ther Rad	1 882	3 878	43	1	1/1	2	75
Jefferson Medical College Hospital★	Philadelphia	P C Swenson	Rad	46,864	17,692	760	9		3	
Jewish Hospital	Philadelphia	J G Cohen	Rad	13,598	4,727	107	3	7/1	3	75
Lankenau Hospital★[1]	Philadelphia	M M Meyers	Rad	11,727	1,943	62		7/1	2	50
Mercy Douglass Hospital★[1]	Philadelphia	R F Minton		2,344	6			7/1		100
Mount Sinai Hospital★[1]	Philadelphia	L Edeiken	Rad	9 712	551	79	2	7/1	3	50
†Nazareth Hospital	Philadelphia	J S Fetter	Roent	10 996	1,801	34	1	7/1	1	100
Pennsylvania Hospital★	Philadelphia	P A Bishop	Rad	16 682	2,298	118	2		3	20
Philadelphia General Hospital★[1]	Philadelphia	B P Widmann	Rad	32,968	10,071	203	9	7/1	2	75
Presbyterian Hospital★	Philadelphia	L L Lame	Rad	10,247	3,050	13	2	8/1	2	
Temple University Hospital★[1]	Philadelphia	W L Chamberlain	Rad	31,658	5 245	55	7	7/1	3	50
Mercy Hospital★[1]	Pittsburgh	J A L McCullough	Rad	26 992	6 779	140		7/1	1	100
Montefiore Hospital★[1]	Pittsburgh	M Goldsmith	Rad	10 493	2 126		1	7/1	3	50
†St Francis Hospital★	Pittsburgh	J H Osmond	Rad	30 774	3,444	21	1	7/1	1	100
Pittsburgh Medical Center[60]	Pittsburgh		Rad	27,307	3,741	148	6	7/1		41 67
Western Pennsylvania Hospital★[1]	Pittsburgh	R Alley and E Euphrat	Rad	14,880	5,588	61	3	9/1	3	100
Robert Packer Hospital★	Sayre Pa	S P Perry	Rad	18 076	4,039	20	2	7/1	3	150
†Chester County Hospital★	West Chester, Pa	J Gershon Cohen	Roent	6,861	2,778	4				
†Reading Hospital★[1]	Reading Pa	G W Chamberlain	Rad	10,471	4,751	57			1	
†Columbia Hospital★	Wilkinsburg Pa	W J McGregor	Roent	9,372	1,769					
†Rhode Island Hospital★[1]	Providence R I	L A Martineau	Rad	23,860	3,113		2	7/1	1	50
Roger Williams General Hospital★	Providence R I	R R Hunt								
Roper Hospital★[1]	Charleston S C	H S Petit	Rad	12,703	4,380	94	2	7/1	3	50
†Columbia Hospital★[1]	Columbia S C	G W Smith, Jr	Roent	6 208	20 229		1	7/1	1	75
Baptist Memorial Hospital★	Memphis Tenn	J F Whiteleather	Rad	12 875	3,063	263	2	7/1	1	75
John Gaston Hospital★	Memphis Tenn	D S Carroll	Rad	25 367	4,246	73	4	7/1	3	
Methodist Hospital★[1]	Memphis Tenn	J C King	Rad	14,269	4,222		3		3	75
Vanderbilt University Hospital★[1]	Nashville Tenn	C C McClure	Rad	17,520	3,471	58	2	7/1	3	35 41
Baylor University Hospital★[1]	Dallas, Texas	I F Miller	Rad	12,863	4,056	25	4	7/1	3	50
†Methodist Hospital★	Dallas, Texas	R H Millwee	D R	7,084	1 054	53	1	7/1	1	75
Parkland Hospital★[1]	Dallas Texas	R Clayton	Rad	42 067	2 344	99	2	7/1	3	50
All Saints Hospital	Fort Worth, Texas	A L Roberts								
University of Texas Medical Branch Hospitals John Sealy Hospital★[1]	Galveston Texas	J O Rude	Rad	33 983	4,177	39	5	7/1, 9/1		50
Hermann Hospital★[1]	Houston, Texas	J M Vaughan								
†Methodist Hospital★[1]	Houston Texas	O H Burge	Roent	7,467	2,017	18				
M D Anderson Hospital for Research Cancer	Houston, Texas									
St Joseph's Infirmary	Houston, Texas	P E Wigby	Rad	18,152	4 372	125	1	6/1	1	150
†Santa Rosa Hospital★	San Antonio Texas	M Davis	D R	12,159	1,176	36	1	7/1	1	110
Scott and White Hospital★[1]	Temple Texas	C A Stevenson	Rad	49 073	6 601		4		3	50
†Wichita Falls Clinic Hospital★	Wichita Falls Texas	C D Wilson	Rad	5,103	387	14			1	400
†Salt Lake County General Hospital★[1]	Salt Lake City	H Plenk	D R	10,465	2 091	0	2		1	
Bishop De Goesbriand Hospital★[1]	Burlington Vt	I Van Buskirk		5,036	1 091	1		7/1		50
Mary Fletcher Hospital★	Burlington, Vt	O S Peterson	Rad	9,728	4,186	249	3	7/1	1	50
University of Virginia Hospital★[1]	Charlottesville, Va	V W Archer	Rad	33,104	9,886	117				
†De Paul Hospital★[1]	Norfolk Va	W H Whitmore	Roent	7,261	1,904	45	1	7/1	1	100
†Norfolk General Hospital★[1]	Norfolk, Va	P B Parsons and L B Waters	Rad	7 821	6 124	287	1	7/1	1	125
Medical College of Virginia Hospital Division★[1]	Richmond, Va	F B Mandeville	Rad	25,301	5,140	167	4		3	
†Swedish Hospital (Tumor Clinic)★[1]	Seattle	T Blake	Ther Rad	1,075	7 884	238			1	100
Virginia Mason Hospital★[1]	Seattle	T Carilli					1	7/1	3	75
†Sacred Heart Hospital★[1]	Spokane, Wash	M Harris and G Bracher	Rad	7,690	665	30	1	7/1	1	125
Methodist Hospital★[1]	Madison Wis	W L Waskow	D R	10,454	1,794			7/1	1	150
State of Wisconsin General Hospital★[1]	Madison, Wis	E A Pohle and L W Paul	Rad	38,777	8,535	156	4	1/1, 7/1	3	25
St Joseph's Hospital★	Marshfield, Wis	J M Wickham		3,507	1,578	18			3	
Columbia Hospital★	Milwaukee	S A Morton		31,629	2 990		1	7/1	3	75
†Evangelical Deaconess Hospital★	Milwaukee	A M Melamed	D R	11 606	2,013	24	1	7/1	1	
†Milwaukee County Hospital★[1]	Milwaukee	J L Marks	D R	35 355	1,829	23	3	7/1	1	175 08
†Milwaukee Hospital★[1]	Milwaukee	H W Heike	Rad	19,019	10,596	175	1	7/1	1	
†Queens Hospital★[1]	Honolulu, Hawaii	L L Buznid	Rad	6,870	2,400	14	1	7/1	1	75

26 SURGERY

The following services are approved by the Council and the American Board of Surgery Hospitals designated by an asterisk offer approved training in Surgery of less than three years' duration, which is integrated with or contributory to a fully approved program

Hospitals 451 Assistant Residencies and Residencies, 3 742

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital★	San Francisco	L D Heaton	1,384	8,823	30	26	11	1/1, 7/1	3-4	n
Fitzsimmons General Hospital★	Denver	J H Forsee	2,165	1,088	53	45	13	1/1, 7/1	3-4	n
Army Medical Center★[15]	Washington, D C	S F Seeley	1,074	6,102	15	14	16	7/1	3-4	n
Brooke Army Medical Center★[14]	San Antonio, Texas	J R Shaeffer	3,712	5,049	65	42	21	7/1	3 4	n
Gorgas Hospital★	Ancon, C Z	F E Hamilton	2,428	8,826	35	24	8	7/1	3-4	n
Tripler General Hospital★	Moanalua, Hawaii	D M Walker	7,685	30,711	10	9	9	7/1	3	n

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Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Navy										
U S Naval Hospital★	Long Beach Calif	L L Bean	3 579	10 384	65	55	6		4	n
U S Naval Hospital★	Oakland Calif	E H Dickinson	2 438	468	15	13	7		4	n
U S Naval Hospital★	San Diego Calif	T G Hays	3 707	10 780	01	51	8		4	n
U S Naval Hospital★	Great Lakes Ill	E S Lowe	769	92	12	10	6	Varies	*	n
U S Naval Hospital★[1]	Bethesda Md	H A. Gross	512	180	49	41	9	Varies	4	n
U S Naval Hospital★	Chelsea Mass	C G Glegg	2 420	1 427	112	50	6		4	n
U S Naval Hospital★[1]	St Albans N Y	H G Young	1 656	2 001	63	52	6	Varies	4	n
U S Naval Hospital★	Philadelphia	L G Bell	4 206	5,318	41	14	10	1/1 7/1	4	n
United States Public Health Service										
U S Marine Hospital★	San Francisco	S P Cooper	2 708	9 474	47	27	4	7/1	3	n
U S Marine Hospital★[1]	New Orleans	O C Williams	2 087	0 250	19	11	6	7/1	3	n
U S Marine Hospital★[1]	Baltimore	J D Lane Jr	2 211	7 024	15	12	7	7/1	3	n
U S Marine Hospital★	Boston	H D Fishburn	1 187	2 748	8	5	4	7/1	3	n
U S Marine Hospital★	Detroit	M. B Noyes	1 384		18	10	3	7/1	3	n
U S. Marine Hospital★[1]	Stapleton S I N Y	H L Skinner	0 928	16 508	90	56	10	7/1	3	n
U S Marine Hospital★[1]	Seattle	T S McGowan	2 744	13 018	28	22	6	7/1	3	n
Federal Security Agency										
Freedmen s Hospital★[1]	Washington D C	O R Drew	1 182	8,904	48	25	10	7/1	4	n
Veterans Administration										
Veterans Admin Hospital	Tuskegee Ala	A C Yancey							3	n
Veterans Admin Center★[1]	Los Angeles	W P Longmire	1 231	2 756	5	3	20	7/1	4	n
Veterans Admin Hospital[1]	San Francisco	J W Martin	1 419	3 010	25	18	11	7/1	3-4	n
Veterans Admin Hospital★[1]	Van Nuys Calif	J A. Weinberg	1 323	5 605	15	13	12	1/1 7/1	4	n
Veterans Admin Hospital[1]	Fort Logan Colo	P M Ireland	1 005		22	21	9	1/1	3-4	n
Veterans Admin Hospital	Newington Conn	A. Hurwitz	1,861	1 925	19	12	12	7/1	3-4	n
Veterans Admin. Hospital[1]	Washington D C	J G Lee	1 981	3 841	30	31	7	7/1	3-4	n
Veterans Admin. Hospital	Coral Gables Fla	M. H Todd	2 150	2 407	27	24	10	7/1	3	n
Veterans Admin Hospital	Chamblee Ga	W H Proctor Jr	1 042	1,223	84	59	15	7/1	3	n
Veterans Admin Hospital	Hines Ill	C B Puestow	5 429		95	57	50	1/1 7/1	4	n
Veterans Admin Hospital	Indianapolis	H L Egbert	2 072		46	37	11	1/1 7/1	4	n
Veterans Admin Center	Des Moines Iowa	L T Palumbo	4 038		57	45	15	7/1	3-4	n
Veterans Admin. Center[1]	Wadsworth Kan	W I Hinkle	1 644		54	45	11	1/1 7/1	3	n
Veterans Admin Hospital	Wichita Kan	P Cooper	2 008		26	23	8	1/1 7/1	3	n
Veterans Admin. Hospital[1]	Louisville Ky	J E. Hamilton	2,151	2 836	51	33	17		4	n
Veterans Admin Hospital[1]	New Orleans	L K Richardson	1,580	1 097	31	23	15	7/1	4	n
Veterans Admin Hospital	Fort Howard Md	J M Miller	1 396	555	21	16	7	7/1	3-4	n
Veterans Admin. Hospital	Perry Point Md	R T Shackelford	1,500		16	12	5	7/1	4	n
Veterans Admin Hospital	Boston	F Ross	2,929	10 009	55	40	14	1/1 7/1	3-4	n
Veterans Admin Hospital[1]	Framingham Mass	H H Faxon	1 633	1,398	18	14	16	7/1	4	n
Veterans Admin. Hospital	Dearborn Mich	G S Bates	4,242	0 114	129	62	21	7/1	3-4	n
Veterans Admin Hospital[1]	Minneapolis	L J Hay	3 026	3 510	53	41	24	7/1	3-4	n
Veterans Admin. Hospital	Jefferson Bks Mo.	K. B Coldwater	1 862		85	21	16	7/1	4	n
Veterans Admin Hospital	Lincoln Neb	W P Kleitsch	1 007		27	25	6	7/1	3	n
Veterans Admin Hospital	Albuquerque N M	R I Carlson	519		1	1	7	7/1	3	n
Veterans Admin. Hospital[1]	Batavia N Y	W H Sears	1 427	2 170	37	24	11	7/1	3	n
Veterans Admin Hospital[1]	New York City	P K Sauer	2 609	4 267	67	38	16	1/1 7/1	3-4	n
Veterans Admin Hospital[1]	Staten Island N Y	M K Smith	2 859	2 041	30	23	20	1/1 7/1	4	n
Veterans Admin Hospital[1]	Cleveland	P F Partington	2 509	515	41	30	16	7/1	3-4	n
Veterans Admin Center	Dayton Ohio	C C Burton	2,835	0 500	81	44	15	7/1	4	n
Veterans Admin Hospital[1]	Oklahoma City	F A Quenzer	832		20	22	6	7/1	3-4	n
Veterans Admin. Hospital	Portland Ore	R A Wise	1 939	631	104	84	12	1/1 7/1	3-4	n
Veterans Admin Hospital	*Aspinwall Pa*	W W *Fellows*	2 409		43	21	14	7/1	3-4	n
Veterans Admin. Hospital	Columbia S C	K M Lippert	1 605		19	17	4		3-4	n
Veterans Admin Hospital	Memphis Tenn	R F Bowers	3 010	7 188	61	44	22	7/1	3-4	n
Veterans Admin. Hospital	Nashville Tenn	R S McCleery					18	7/1	4	n
Veterans Admin Hospital[1]	Dallas Texas	L. J Kleinsasser	943		20	9	6	7/1	3-4	n
Veterans Admin Hospital[1]	Houston Texas	J P Heaney	012		19	19	6	7/1	4	n
Veterans Admin Hospital[1]	McKinney Texas	J P North	1 051		23	20	12	7/1	4	n
Veterans Admin Hospital[1]	Salt Lake City	J A Gubler	1 318	2 938	24	24	10	7/1	4	n
Veterans Admin Center[1]	White River Jct Vt	W B Crandell	1 901		16	14	11	7/1	4	n
Veterans Admin Hospital[1]	Richmond Va	R. F MacDonald	3 166		67	45	27	7/1	4	n
Veterans Admin Center	Milwaukee	F Raine	1 622	519	65	53	12	7/1	3-4	n
Nonfederal										
Carraway Methodist Hospital★	Birmingham Ala	O N and B M Carraway	854	15 790	14	5	5	7/1	3	150
Jefferson Hillman Hospital★[1]	Birmingham Ala	R Guthrie	2 990	11 234	85	37	10	7/1	4	50
Employees Hospital of Tennessee Coal Iron and Railroad Company★	Fairfield Ala	R. A Hamrick	1 064	18 043	10	4	5	7/1	4	225
University Hospital★[1]	Little Rock Ark	G O Dean	838	7,840	45	21	15	7/1	4	75
Herrick Memorial Hospital★[1]	Berkeley Calif	S H Babington	880	6,960	7	6	2	7/1	3	50
San Joaquin General Hospital★[1]	French Camp Calif	W Brock	2 248	14 456	77	66	5	7/1	3	220
General Hospital of Fresno County★	Fresno Calif	C L Vanderberg	915	3 007	57	21	5	7/1	3	218
Cedars of Lebanon Hospital★	Los Angeles		4,904	3 953	74	24	2	7/1	3	75
Hospital of the Good Samaritan★[1]	Los Angeles	P J Cunnane	6 918	4 615	18	6	4	7/1	3	150
Los Angeles County Hospital★[1]	Los Angeles.	L. A. Alesen	4 453	12,319	297	95	12	Varies	4	165
St Vincent s Hospital★	Los Angeles.	F Breslin	7 069		32	17	2	7/1	3	100
White Memorial Hospital★	Los Angeles.	C E Stafford	1 154	5 465	88	11	7	7/1	3	120
Highland Alameda County Hospital★[1]	Oakland Calif	S Everingham and W W Crane	1 039		66	28	3		3	135
Permanente Foundation Hospital★[1]	Oakland Calif	A L Barltell	1 622	21,532	44	21	7		4	125
Samuel Merritt Hospital	Oakland Calif	W Crane	1 407		8	7	4	7/1	*	100
San Bernardino County Charity Hospital★	San Bernardino Calif	C Sprague	779	5 312	43		2	1/1	3	170
Mercy Hospital★	San Diego Calif	J J O Hara	5 032	1 080	97	31	4	7/1	3	100
San Diego County General Hospital★	San Diego Calif	H G Holder	1 006	4 609	76	31	3	7/1	3	125
Franklin Hospital★[1]	San Francisco	T F Mullen	1,831		30	22	7	7/1	4	100
French Hospital★[1]	San Francisco	W L Rogers	967		7	2	2	7/1	*	105
Mount Zion Hospital★	San Francisco	F L Harris	841	1 686	13	8	4		4	50
St Joseph s Hospital★	San Francisco	A R Kilgore	2 783	35	18	12	6	7/1	3	200
San Francisco Hospital★[1]	San Francisco						16	7/1	4	175
Southern Pacific General Hospital★	San Francisco	N M Strange	1 281		14	5	8	7/1	3	
Stanford University Hospitals★[1]	San Francisco	E F Holman	2,386	11 484	60	34	12	7/1	4	50
University of California Hospital★[1]	San Francisco	H G Bell	1 382	9 647	21	8	9	9/1	4	75
Santa Barbara Cottage Hospital★[1]	Santa Barbara Calif	W K. Jennings	2,503	1,518	38	19	7	7/1	3	100

Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered §	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Harbor General Hospital*	Torrance, Calif	H H Jacob	803	2,834	53	24	7	7/1	3	165
Mercy Hospital*[1]	Denver	F Good	7,047		46	25	3	7/1	3	40
Presbyterian Hospital*	Denver	G B Kent	3 963	883	68	25	2	7/1	3	75
St Anthony Hospital	Denver								3	
St Joseph's Hospital	Denver	J Fostek	1 726		7	3	5	7/1	3	85
St Luke's Hospital*	Denver	G B Packard	5,783		96	43	8	7/1	3	40
University of Colorado Medical Center										
Colorado General Hospital*	Denver	J M Foster	794	2,060	33	25	12	7/1	4	75
Denver General Hospital*[1]	Denver	G D Ellis	1,503	3,408	127	101	5	7/1	4	75
Corwin Hospital*	Pueblo, Colo	S B Potter	711	8,569	18		2	7/1	3	75
Bridgeport Hospital*	Bridgeport, Conn	M L Cheney	3 877		69	33	2	7/1	3	100
Hartford Hospital*[1]	Hartford, Conn	W A Standish	4 688	228	60	45	10	7/1	4	50
St Francis Hospital*	Hartford, Conn	B B Landry	3,456	487	90	29	3	7/1	3	75
New Britain General Hospital*[1]	New Britain, Conn	B B Clark	3,839		66	33	3	7/1	3	75
Grace New Haven Community Hospital										
Grace Unit*	New Haven, Conn	R Nichols	1,473	731	20	7	8	7/1	3	52
New Haven Unit (University Service)*[1]	New Haven, Conn	G Lindskog	2,273	8,596	78	53	10	7/1	4	40
Hospital of St Raphael*[1]	New Haven, Conn	W F Verdi	3,133	320	111	26	7	7/1	3	75
Waterbury Hospital*[1]	Waterbury, Conn	A A Johnson	3,889	2,608	91	45	4	7/1	3	100
Delaware Hospital*	Wilmington, Del	L J Jones	1,803	4,173	63	41	4	7/1	4	90
Memorial Hospital*[1]	Wilmington, Del	J G Spackman	1,709	1,449	53	35	4	7/1	3	110
Central Dispensary and Emergency Hospital*[1]	Washington, D C	J H Lyons	2,037	2,920	65	30	11	7/1	4	
Doctors Hospital*[1]	Washington, D C	C S White	2,320		32	22	3	7/1	3	100
Gallinger Municipal Hospital*[1]	Washington, D C	P A Reed	1,463	8,171	61	25	6	7/1	4	100
Garfield Memorial Hospital*[1]	Washington, D C		1 904	2 760	41	33			3	
Georgetown University Hospital*	Washington, D C	R J Coffey	3,401	5,130	63	30	28	7/1	4	25
George Washington University Hospital*[1]	Washington, D C	B B Blades	952	1,105			6	7/1	4	50
Providence Hospital*	Washington, D C	P S Putzki and F R Sanderson	1,629	5,103	17	7	4	7/1	4	75
Duval Medical Center*	Jacksonville, Fla	F Jelks	1 090		49	22	4	7/1	3	125
St Vincent's Hospital*	Jacksonville, Fla	F J Waas	1,429	4 770	18	7	2	7/1	3	100
Jackson Memorial Hospital*[1]	Miami, Fla	W C Jones	5,110	13,007	149	72	12	7/1	3	60
Crawford W Long Memorial Hospital*[1]	Atlanta Ga	C B Stewart	3,656	253	40	9	10	7/1	3	75
Grady Memorial Hospital*[1]	Atlanta, Ga	I Ferguson	3,787	38 152	185	57	25	7/1	4	20
University Hospital*	Augusta Ga	J H Sherman	2,025	2,552	72	24	12	7/1	3	40
Emory University Hospital*	Emory University, Ga	D C Elkin	4,017		30	20	9	7/1	3	50
American Hospital*[1]	Chicago	M Thorek	2,251	161	98	49	4	7/1	3	50
Augustana Hospital*	Chicago	N M Percy	3,174	3,526	85	54	7	7/1	4	50
Chicago Memorial Hospital*	Chicago	J Van Prohaska	1,085	2,100	21	16	2	7/1	3	200
Children's Memorial Hospital[1]	Chicago	W J Potts	2,375	3,356	31	29	7	1/1, 7/1	*	75
Cook County Hospital*[1]	Chicago	K A Meyer	19 421	21,636	1,269	149	28	1/1, 7/1	4	32
Grant Hospital*	Chicago	L Seed	1 904	5,341	44	31	2	7/1	3	100
Illinois Masonic Hospital*[1]	Chicago	P Shambaugh	1 296	7,158	18	12	4	1/1, 7/1	3	50
Lutheran Deaconess Home and Hospital*[1]	Chicago	J D Koucky	3,436		52	29	2	7/1	3	100
Mercy Hospital Loyola Univ Clinics*[1]	Chicago	H A Oberhelman	1 704	4,209	60	27	12	7/1	4	25
Michael Reese Hospital*[1]	Chicago	N N Crohn	3,611	4 099	15	8	7	7/1	4	25
Mount Sinai Hospital*	Chicago	J T Gault	3,445	8 167	88	39	8	7/1	3	50
Passavant Memorial Hospital*[1]	Chicago	L Davis	3 011	14,448	41	27	4	7/1	4	
Presbyterian Hospital*	Chicago	F M Miller	2 553	5,166	64	44	15		4	25
Provident Hospital*	Chicago	T C Raines	1 220	4,069	40	29	3	7/1	3	50
Research and Educational Hospital*[1]	Chicago	W H Cole	969	12,166	37	33	4	7/1	4	55
St Elizabeth Hospital*	Chicago	M G Luken	3 189		14		3		3	60
St Luke's Hospital*[1]	Chicago	F L McMillan	3,932		100	59	14	7/1	4	25
St Mary of Nazareth Hospital*	Chicago	T M Larkowski	5 037	167	34	12	6	7/1	3	100
University of Chicago Clinics*	Chicago	L R Dragstedt	1,033	16,430	54	37	7	7/1	4	25
Wesley Memorial Hospital*[1]	Chicago	R W McNealy	2,239		15	10	7	7/1	4	25
Evanston Hospital*	Evanston, Ill	F Christopher	940	1,062	24	17	3	7/1	4	50
St Francis Hospital*	Evanston, Ill	J J Fahey	3,839	2,236	55	35	4	7/1	3	75
West Suburban Hospital*	Oak Park, Ill	J J Theobald	2,108	1,986	71	36	4	7/1	3	150
St Francis Hospital*[1]	Peoria Ill	O D Branch	1,817	5,914	18	8	2	7/1	*	100
Clinic Hospital	Bluffton, Ind								3	
Indianapolis General Hospital*	Indianapolis	F W Taylor	1,423	7,579	89	43	5	7/1	3	80
Indiana University Medical Center*[1]	Indianapolis	H J Schumacker	1,108	1,233	74	52	10	7/1	4	68.83
Methodist Hospital*[1]	Indianapolis	F B Ramsey	3,838	2,930	103	27	6		3	200
St Elizabeth Hospital*	Lafayette, Ind	F A Loop	2,107	1,258	25	14	6	7/1	3	100
Iowa Methodist Hospital*[1]	Des Moines, Iowa	J B Priestley	1 725		45	30	5	7/1	3	75
University Hospitals*[1]	Iowa City	N Womack	3,276	3,517	135	101	27		4	50
University of Kansas Medical Center*	Kansas City, Kan	P Schafer	1,008	3,982	54	40	6	7/1	4	100
Wesley Hospital*[1]	Wichita Kan	L K Crumpacker	1,571		6	3	8	7/1	3	150
St Joseph's Hospital*	Lexington, Ky	F W Rankin	2,060	850	50	18	7	7/1	3	100
Louisville General Hospital*[1]	Louisville, Ky	R A Griswold	1,354	14,477	81	35	20	7/1	4	45
Norton Memorial Infirmary*	Louisville, Ky	K A Fischer	1,730		29	10	2	7/1	*	75
St Joseph Infirmary*	Louisville, Ky	I D Hancock	2,548	2,355	89	43	10	7/1	4	75
Charity Hospital of Louisiana*[1]	New Orleans	L J O Neil	8 655	80,612	443	146	36	7/1	4	25
Ochsner Foundation Hospital*	New Orleans	A Ochsner	1,028	7,913	37	31	20	Varies	3	125
Southern Baptist Hospital*[1]	New Orleans	E L Irwin	2,173		7		2	7/1	3	150
Touro Infirmary*[1]	New Orleans	J D Rives	2,925	7 053	52	33	6	7/1	3	17.50
Shreveport Charity Hospital*	Shreveport La	J F Heard	2,155	7,512	74	29	12	7/1	3	60
Maine General Hospital*	Portland, Me	I M Webber	1,800	3,137	66	33	6	7/1	3	50
Baltimore City Hospitals*[1]	Baltimore	O C Brantigan	2 622	4,211	162	80	12	7/1	4	15
Bon Secours Hospital*	Baltimore	G Stewart	803	3,601	14	7	3	7/1	3	75
Church Home and Hospital*[1]	Baltimore	T S Cullen	3,359	1,448	54	36	6	7/1	3	35
Franklin Square Hospital*	Baltimore	H E Wilgis	2,774	8,514	24	18	6	7/1	4	58
Johns Hopkins Hospital*	Baltimore	A Blalock	3,382	52,388	109	70	11	7/1	4	41 66
Maryland General Hospital*[1]	Baltimore	R F Chenoweth	3,334	1,718	64	15	7	7/1	3	50
Mercy Hospital*[1]	Baltimore	W D Wise	2 996	5,923	80	28	6	7/1 9/1	4	50
Provident Hospital and Free Dispensary*	Baltimore	S McLanahan	1,125	9,412	58	7	4	7/1	3	100
St Agnes Hospital*	Baltimore	G A Stewart	1,607	457	87	19	6	7/1	3	75
Sinai Hospital*	Baltimore	H M Kern	2 587	2,460	44	25	7	7/1	4	25
South Baltimore General Hospital*[1]	Baltimore	O S Lloyd	2,111	7,178	50	22	6	7/1	3	120
Union Memorial Hospital*	Baltimore	S Mc Lanahan	3 452	4,703	98	43	10	7/1	4	20
University Hospital*[1]	Baltimore	C R Edwards	2,344	10,481	48	16	12	7/1	4	75
West Baltimore General Hospital*	Baltimore	W E Gilmore	1,224	1,503	37	14	5	7/1	3	60
Beverly Hospital*	Beverly, Mass	P P Johnson	2,152	6,101	43	34	5	7/1	3	50
Beth Israel Hospital*	Boston	J Fine	2,215	6,640	59	30	8	7/1	4	41 66
Boston City Hospital*[1]	Boston	J A Shortell	10,560	40,930	458	88	68	7/1	3-4	90
Carney Hospital*	Boston	A McK Fraser and W E Browne	1,068	6,100	48	20	7	7/1	3	50
Children's Hospital*[1]	Boston	R Gross	2,309	11,240		23	12		*	

Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Massachusetts General Hospital*	Boston								4	
Massachusetts Memorial Hospital*[1]	Boston	R H Smithwick	4 300	3 412	54	32	13	7/1 10/1	4	50
New England Center Hospital [1]	Boston	C S Welch	320	5,537	15	10	10	7/1	4	50
New England Hospital for Women and Children*[1]	Boston	G E Rochford	1 670	1 727	15	9	4	1/1	3	50
Peter Bent Brigham Hospital*	Boston	F D Moore	2 729	21 051	80	56	16	7/1	4	
St Elizabeth's Hospital*	Boston	J W Spellman	2 9 5	7,871	76	21	4	7/1	3	75
Mount Auburn Hospital*[1]	Cambridge Mass	S Fraser	1 746	1,575	65	36	4	7/1	3	50
Truesdale Hospital*[1]	Fall River Mass		1 012	9 5	51	28			*	
Newton Wellesley Hospital*	Newton Mass	R I Smith	2 96	2 044	64	23	3	7/1	3	100
Salem Hospital*	Salem Mass								*	
Springfield Hospital*[1]	Springfield Mass	R G Mace	5 622	3 180	112	50	10	7/1	3	50
Memorial Hospital*	Worcester Mass	B C Wheeler	3 125		52	33	3	7/1	3	100
St Vincent Hospital*	Worcester Mass	W F Lynch	2 451		51	22	9	7/1	4	41 67
St Joseph's Mercy Hospital*[1]	Ann Arbor Mich	H Beebe	953	12 865	17	15	5	7/1	3	125
University Hospital*[1]	Ann Arbor Mich	F A Coller	2 169	11 264	83	61	72	7/1	4	139 60
Leila Y Post Montgomery Hospital*	Battle Creek Mich	R L Mustard	929	2 404	7	2	4		3	150
Alexander Blain Hospital	Detroit	A W Blain	1 700	14 5 9	39	15	7	7/1	3	100
Charles Godwin Jennings Hospital*[1]	Detroit	J B Hartzell					2	7/1	3	2 0
City of Detroit Receiving Hospital*[1]	Detroit	C G Johnston	3 455	17 229	270	211	22	7/1	3	189 05
Detroit Memorial Hospital*	Detroit								3	
Evangelical Deaconess Hospital*[1]	Detroit	E C Baumgarten	4 380	143	33	10	8	7/1	3	125
Grace Hospital*[1]	Detroit	C S Kennedy	5 935		74	30	17	7/1	4	75
Harper Hospital*[1]	Detroit	W D Barrett	3,566	2 855	77	22	18	7/1	4	110
Henry Ford Hospital*[1]	Detroit	R D McClure	8 604	130 035	165	102	63	7/1	4	200
Mt Carmel Mercy Hospital*[1]	Detroit	N B Kalder	3 050		40	21	11	7/1	3	150
Providence Hospital*	Detroit	R V Walker	5 406		83	37	9		3	140
St Joseph's Mercy Hospital*	Detroit	D J Leithauser	1 444	134	21	4	4	7/1	3	150
Wayne County General Hosp and Infirmary*[1]	Eloise Mich	A Z Howard	3 451	10 378	170	50	10	7/1	3	255
Hurley Hospital*[1]	Flint Mich	A H Kretchmar	1,597		26	7	6	7/1	3	135
Blodgett Memorial Hospital*	Grand Rapids Mich	C H Frantz	1 791		46	26	3	7/1	3	200
Butterworth Hospital*	Grand Rapids Mich	M B Tidy	2 462	379	50	35	5		4	
St Mary's Hospital*[1]	Grand Rapids Mich	J W Logie	3 764	1,290	91	41	8	7/1	3	125
Highland Park General Hospital*[1]	Highland Park Mich	F J Witter	1 482	414	31	14	8	7/1	3	150
Bronson Methodist Hospital*[1]	Kalamazoo Mich.	M Peelen	2 175	2,818	45	29	8	7/1	3	150
Pontiac General Hospital*[1]	Pontiac Mich	C G Burke	3 519	6,903	47	29	5	7/1	3	75
Saginaw General Hospital*[1]	Saginaw Mich	H M Bishop	1 657	1,992	5	3	8	7/1	3	85
Minneapolis General Hospital*[1]	Minneapolis	A A Zierold	985	6 152	93	67	10	1/1 7/1	3	125
Northwestern Hospital*[1]	Minneapolis	F Benjamin	3 563		71	37	3	7/1	*	150
St Barnabas Hospital*[1]	Minneapolis	W G Schaefer	1 073		17	11	2	1/1	3	125
University of Minnesota Hospitals*[1]	Minneapolis	O Wangensteen	1,300	7 848	73	56	37		4	125
Mayo Foundation	Rochester Minn	J T Priestley					100	Varies	3	92.50
Ancker Hospital*[1]	St Paul	F M Jones	2 153	6 170	103	65	9	3/1	4	91.50
Charles T Miller Hospital*[1]	St Paul	E M Jones and H B Zimmermann	1 581	1 538	65	41	2	7/1	3	115
Lutheran Hospital	Vicksburg Miss	W H Parsons	1 675		16	8	4	7/1	3	50
Kansas City General Hospital No 1*	Kansas City Mo	H C Lapp	1 252	4 674	75	40	10	7/1	3	50
Research Hospital*[1]	Kansas City Mo	O J Hunt	3 733	6 6	62	34	6	7/1	3	100
St Joseph Hospital*	Kansas City Mo	V T Williams	5,510	1 000	105	61	8	7/1	3	150
St Luke's Hospital*	Kansas City Mo	P E Engel	1 366	2,358	25	25	4	7/1	3	75
Barnes Hospital*	St Louis	E A Graham	6 163	16,834	156	116	45	7/1	4	25
Homer G Phillips Hospital*[1]	St Louis	R Elman	2,320	8 910	157	32	14	7/1	4	98
Jewish Hospital*[1]	St Louis	J G Robstein	2,350	2 652	51	24	4	7/1	3	50
Missouri Baptist Hospital*[1]	St Louis	G Rendleman	1 901		57	18	5	7/1	3	70
Missouri Pacific Hospital	St Louis	O B Zeinert							3	
St John's Hospital*	St Louis	W P Glennon	3 311	816	79	41	4	7/1	3	60
St Louis City Hospital*[1]	St Louis	E Bricker and L V Mulligan	3 845	8 113	296	112	15	7/1	4	
St Mary's Group of Hospitals*[1]	St Louis	J W Stewart	2 753	5 389	108	53	13	7/1	4	85
Bishop Clarkson Memorial Hospital*[1]	Omaha	J D Bisgard	3 845	450	38	18	1		3	100
Creighton Memorial St Joseph's Hospital*	Omaha	C McMartin	3 700	8 050	64	25	3	7/1	3	100
University of Nebraska Hospital*[1] [1]	Omaha	H H Davis	534	1 400	29	23	0	7/1	3	75
Atlantic City Hospital*	Atlantic City N J	D B Allman	2 153	20 762	73	20	1	7/1	3	50
Cooper Hospital*[1]	Camden N J	I F Deibert	4 045	6 409	149	75	5	7/1	3	83 33
West Jersey Hospital*	Camden N J	J H Wesley					2	7/1	3	125
Jersey City Hospital (Private Service)*[1]	Jersey City N J	C B Kelly	3 063	16,805	126	22	15	Varies	3	35
Burlington County Hospital	Mount Holly N J	T J Summey	1 114	2,238	33	22	2	7/1	3	100
Hospital of St Barnabas and for Women and Children*[1]	Newark N J	H. A Schulte	4,299	9 767			4	7/1	3	100
Newark Beth Israel Hospital*	Newark N J	A. B Abrams	2 904	1,835	67	21	3	7/1	3	50
Paterson General Hospital*[1]	Paterson N J	L E Deyoe	2,6 4	1,310	95	25	3	7/1	3	75
Albany Hospital*[1]	Albany N Y	F H Campbell	2 396	2 009	71	32	5	7/1	4	41 66
Binghamton City Hospital*[1]	Binghamton N Y	C D Squires	2 865	8 726	82	39	8	7/1	3	
Beth El Hospital*[1]	Brooklyn	H Neuhof	2,239	12 183	58	21	8	7/1	3	100
Brooklyn Cancer Institute	Brooklyn	Dr Siris	700	10 406	195	42	2	1/1 7/1	*	50
Brooklyn Hospital*[1]	Brooklyn	W H Field	2 492	5,317	62	28	6	7/1	3	25
Coney Island Hospital*[1]	Brooklyn	J E Hammett	2 063	21 188	95	20	7	7/1	*	80
Cumberland Hospital*[1]	Brooklyn	J J Gainey	3,207	10 033	114	30	5	7/1	4	80
Jewish Hospital*[1]	Brooklyn	H Louria and L Berger	3 073	7 675	42	11	4	7/1	4	30
Kings County Hospital*	Brooklyn	J Tenopyr and P Lear	10 687	48 410	570	145	10	1/1 7/1	4	80
Long Island College Hospital*	Brooklyn	E J Browder	2 174	10 341	52	19	4	7/1	4	50
Maimonides Hospital*[1]	Brooklyn	C B Ripstein	3 256	4 628	82	25	8	7/1	3	75
Methodist Hospital*[1]	Brooklyn	P A. Renaud Sr and S G Clark Sr	2,391	7 303	64	31	5	7/1	3	25
St Catherine's Hospital*[1]	Brooklyn	J L Pfeifer and J Smith Jr		5 099	59	23	4	7/1	3	75
St. John's Hospital*[1]	Brooklyn	M N Foote	1 631	2,866	53	19	8	7/1	3	95
Wyckoff Heights Hospital*[1]	Brooklyn	P A. Zoller	1 723	2,058	54	10	5	7/1	3	100
Buffalo General Hospital*	Buffalo	J R. Paine	2,804	2 420	76	41	14	7/1	4	25
Edward J Meyer Memorial Hospital*[1]	Buffalo	J D Stewart	1 404	4,226	100	37	10	7/1	4	100
Millard Fillmore Hospital*	Buffalo	H N Kenwell	2 451	460	47	17	11	7/1	3	50
Clifton Springs Sanitarium and Clinic [1]	Clifton Springs N Y	W C Fikner	1 259	3 696	14	7	8		3	50
Mary Imogene Bassett Hospital*[1]	Cooperstown N Y	M. A McIver	831	7 515	19	11	2	7/1	3	83.33
Flushing Hospital and Dispensary*[1]	Flushing N Y	O N Baker	4,288	11 822	80	29	3	7/1	3	
Meadowbrook Hospital*[1]	Hempstead N Y	A S Warinner	1 083		70	55	2	7/1	4	134
Jamaica Hospital*[1]	Jamaica N Y	J D Hallinan	1 428	2 175	83	11	8	7/1	3	150
Mary Immaculate Hospital*[1]	Jamaica N Y	F N Dealy	1 998	960	62	13	3	7/1	3	75

Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Queens General Hospital★[1]	Jamaica, N Y	O L Davidson	2,763	21 060	312	141	5	7/1	4	
Charles S Wilson Memorial Hospital★	Johnson City, N Y	D Smith	8 537		49	20	6	7/1	3	125
Nassau Hospital★[1]	Mineola N Y	O C Hudson	2,288		10	1	1	7/1	3	110
Mount Vernon Hospital★	Mount Vernon, N Y	N W Cornell	1,888	684	50	21	2	7/1	3	125
New Rochelle Hospital★	New Rochelle N Y	G O Adie	4 225	2,423	15	5	4	7/1	3	125
Bellevue Hospital										
Division I—Columbia University★[1]	New York City	F Berry	2,071	10,225	93	29	7	1/1, 7/1	3	80
Division II—Cornell University★[1]	New York City	W DeW Andrus	2 032	12,396	70	30	8	1/1, 7/1	4	80
Division III—New York University★[1]	New York City	J H Mulholland	2 604	10,481	91	19	15	1/1, 7/1	4	80
Division IV—Open Division★[1]	New York City	W J Hinton	1 656	8,756	77	36	7	1/1, 7/1	4	80
Beth Israel Hospital★[1]	New York City	L Ginzburg	1,821	2,791	28	8	3	7/1	3	50
Bronx Hospital★[1]	New York City	J A Landy	4,182	16 652	87	80	9	7/1	3	75
Flower and Fifth Avenue Hospitals★[1]	New York City	J M Winfield	2 003	4,929	31	4	11	7/1	4	
Fordham Hospital★[1]	New York City	L Marton and A B Sullivan	1,885	8,229	153	35	10	7/1	3	80
French Hospital★	New York City	H B Keyes	2,106	14,011	49	17	3	7/1	3	100
Goldwater Memorial Hospital★[1, 6]	New York City	W H Barber	715	465	130	33	0	7/1	4	70
Harlem Hospital★[1]	New York City	L T Wright	2 234	23,275	156	31	9	7/1	4	80
Lenox Hill Hospital★[1]	New York City	O C Pickardt and F M Donohue	2 063	6,369	64	22	6	Varies	3	50
Lincoln Hospital★[1]	New York City	F H Amendola	3 850	42,384	210	99	12	7/1	3	50
Metropolitan Hospital★[1]	New York City	J M Winfield	2 353	7,627	115	26	4	7/1	4	80
Montefiore Hospital for Chronic Diseases★[1]	New York City	S Standard	1,069		86	36	7	1/1, 7/1	3	50
Morrisania City Hospital★[1]	New York City	G Milani and P Daley	1,213	4,289	60	42	3	7/1	4	80
Mount Sinai Hospital★	New York City	R Colp and J H Garlock	11,893	14 013	158	62	21	7/1	4	50
New York City Hospital★[1]	New York City	W M Weeden	2,613	11,952	100	14	4	7/1	3	80
New York Hospital★[1]	New York City	F Glenn	2,865	38,930	35	46	80	7/1	4	25
New York Polyclinic Medical School and Hospital★	New York City	R F Brennan	1 807	4,324	18	6	12	7/1	3	50
Presbyterian Hospital★[1]	New York City	G H Humphreys	3,530	48,531	110		20	1/1, 7/1	4	41 66
Roosevelt Hospital★[1]	New York City	W C White and H W Cave	3,732	8,462	122	37	19	7/1	4	25
St Clare's Hospital★	New York City	J J Madden	3 644	8,036	107	49	6	7/1	3	25
St Luke's Hospital★	New York City	W F MacFee	3,678	22,247	97	43	15	7/1	4	50
St Vincent's Hospital★[1]	New York City	L M Rousselot	3,027	14,927	112	40	16	7/1	4	50
University Hospital★	New York City	J W Hinton	3,551	17,112	101	34	17	7/1	4	80
United Hospital★	Port Chester, N Y	J V Hibbard	1,980	907	36	10	2	7/1	*	100
Genesee Hospital★[1]	Rochester N Y	S J Stabins	1 942	1,553	40	26	8	7/1	4	30
Highland Hospital★[1]	Rochester, N Y	W Callhan					6	7/1	3	100
Rochester General Hospital★[1]	Rochester, N Y	W A Fenstermacher	3 972	3,106	43	32	9	7/1	3	55
St Mary's Hospital★[1]	Rochester, N Y	N J Pfaff	6 494	5,129	64	28	9	7/1	3	125
Strong Memorial Rochester Municipal Hosp ★[1]	Rochester, N Y	J J Morton	2,229	11,547	129	90	28	7/1	4	41 66
Ellis Hospital★[1]	Schenectady, N Y	S F MacMillan	4,598	4,500	45	28	5	7/1	3	100
Hospital of the Good Shepherd★[1]	Syracuse, N Y	A Rafil	3,278	758	67	80	8	7/1	3	125
Grasslands Hospital★[1]	Valhalla N Y	G C Adie	431	4,265	43	25	4	7/1	3	125
Charlotte Memorial Hospital★[1]	Charlotte, N C	T D Sparrow	1,646	7,552	31	18	3	7/1	3	60
Duke Hospital★[1]	Durham, N C	D Hart	2,044	7,799	24	12	23	7/1	4	83.33
Lincoln Hospital★	Durham N C	H M Schiebel	701	927	28	11	2	7/1	3	75
Watts Hospital★[1]	Durham, N C	H M Schiebel	2,831	15,535	41	10	5	7/1	3	50
North Carolina Baptist Hospital★[1]	Winston Salem, N C	H H Bradshaw	1,288	6,078	22	13	13	7/1	4	41 66
Children's Hospital[1]	Akron, Ohio	S A Schlueer	1,002	195	14	6	1	7/1	*	100
City Hospital★	Akron, Ohio		2,509	775	67	28	9	7/1	4	100
Peoples Hospital★[1]	Akron, Ohio	S A Schlueter	1,558	760	20	9	10	7/1	4	100
St Thomas Hospital★	Akron Ohio	H H Musser	1,444	704	15	4	3		3	125
Aultman Hospital★[1]	Canton, Ohio	G W Zelders	4,301	196	88	45	6	7/1	3	75
Mercy Hospital★	Canton, Ohio	A W Warren	4,617	85	75	25	9	7/1	4	100
Christ Hospital★	Cincinnati	D E Farley	2,047	8,268	47	17	7	7/1	3	90
Cincinnati General Hospital★[1]	Cincinnati	B N Carter	3 674	23,408	323	153	17	9/1	4	
Good Samaritan Hospital★[1]	Cincinnati	J J Maloney	7,870	1,877	98	30	10	7/1	3	105
Jewish Hospital★	Cincinnati	J D Heiman	4,214	300	65	44	8	7/1	4	60
St Mary's Hospital★	Cincinnati	K B Hanson	742	546	35	16	8	7/1	3	105
City Hospital★[1]	Cleveland	C H Lenhart	2,727	25,071	240	93	18	7/1	4	60
Cleveland Clinic Hospital[1]	Cleveland	R S Dinsmore	2 601	19,767	45	24	13	7/1	3	135
Lutheran Hospital★[1]	Cleveland	J H Lazzari	2,724		54	23	8	7/1	4	85
Mount Sinai Hospital★[1]	Cleveland	S O Freedlander	1,877	2,499	37	11	4	7/1	4	100
St Alexis Hospital★[1]	Cleveland	F A Spittler	6 305	2 384	106	28	6	7/1	3	75
St John's Hospital★[1]	Cleveland	J E Hannibal	2 034	232	44	17	6	7/1	4	100
St Luke's Hospital★	Cleveland	D M Glover	2,988	8,194	106	40	4	6/2	4	60
St Vincent Charity Hospital★	Cleveland	H B Wright	1,940	12,021	36	7	10	7/1	3	50
University Hospitals★[1]	Cleveland	C H Lenhart	4 507	9,305	140		19	7/1	4	25
Mount Carmel Hospital★[1]	Columbus, Ohio	W H Teachnor	2,974	397	46	17	2	1/1, 7/1	3	135
Ohio State University Hospital★[1]	Columbus, Ohio	R M Zollinger	2 029	6,421	73	63	20	7/1	4	50
St Francis Hospital	Columbus Ohio								*	
White Cross Hospital★	Columbus Ohio	R Patton	4,041		76	30	8	7/1	3	100
Miami Valley Hospital★[1]	Dayton, Ohio	M T Hoerner	2,381		46	22	5	7/1	3	75
Huron Road Hospital★[1]	East Cleveland, Ohio	H W Brown	1 964		69	18	7	7/1	3	75
Lakewood Hospital★	Lakewood, Ohio	N W Thiessen	2,994	407	41	13	8	7/1	3	100
St Rita's Hospital★	Lima, Ohio	O H Leech	3,748	2,786	37	18	5	7/1	3	100
Maumee Valley Hospital★	Toledo, Ohio	E J McCormick	533	3,386	52	30	5	7/1	3	125
Mercy Hospital★	Toledo, Ohio	E L Gaspari and H L Hauman	5 287	612	109	48	4	7/1	3	125
St Vincent's Hospital★[1]	Toledo, Ohio	F M Douglass, Sr	3,965	858	87	86	5	7/1	3	
Toledo Hospital★[1]	Toledo, Ohio	G H Reams	2,841	5,267	51	39	4	7/1	3	100
St Elizabeth's Hospital★[1]	Youngstown, Ohio	L G Coe	1,692	227	29	12	7	7/1	4	115
Youngstown Hospital★[1]	Youngstown Ohio	A E Brant	3,859	2,395	79	40	12	7/1	4	75
University Hospitals★	Oklahoma City	L J Starry	816	4,641	39	20	4	7/1	3	35
Hillcrest Memorial Hospital★[1]	Tulsa, Okla	V K Allen	1 090		43	17	5	7/1	3	75
Emanuel Hospital★[1]	Portland, Ore	J A Gius	1,541		18	14	3	7/1	3	76
St Vincent's Hospital★	Portland, Ore	D B Seabrook	4,520		80	35	4	7/1	3	75
University of Oregon Medical School Hospitals and Clinics★[1]	Portland, Ore	W K Livingston	1,272	2,023	75	54	4	7/1	4	76
Abington Memorial Hospital★[1]	Abington, Pa	D B Pfeiffer	2,609	2,252	69	28	8	7/1	3	50
Allentown Hospital★	Allentown, Pa	R L Schaeffer	3,116	3,340	15		3	7/1	3	100
St Luke's Hospital★[1]	Bethlehem, Pa	W L Estes, Jr	3,754	427	78	30	4	7/1	3	130
Bradford Hospital	Bradford, Pa								*	

Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered *	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
Bryn Mawr Hospital★	Bryn Mawr Pa	A E Billings	664		20	10	2	7/1	3	75
George F Geisinger Memorial Hospital and Clinic★1	Danville Pa	H L Foss	2 058	11 452	43	23	4	7/1	3	75
Easton Hospital★1	Easton Pa	T C Zulick Jr	1 870	1 101	25	11	2	1/1	*	100
Hamot Hospital★1	Erie Pa	A F Jonas	1 973	821	67	41	3	7/1	3	150
St Vincent's Hospital★	Erie Pa	L A Lasher	3 783	704	49	23	3	7/1	3	50
Harrisburg Hospital★1	Harrisburg Pa	P A Kunkel	3 457	15 834	105	62	3	7/1	3	100
Harrisburg Polyclinic Hospital	Harrisburg Pa								4	
St Joseph's Hospital★	Lancaster Pa	J L Atlee Jr	4,515	7,906	116	67	3	7/1	3	150
Episcopal Hospital★1	Philadelphia	I M Boykin	2 767	12 708	78	40	4		3	
Germantown Dispensary and Hospital★1	Philadelphia	S D Weeder	2,257	5 745	91	37	2	7/1	4	50
Graduate Hosp of the Univ of Pennsylvania★	Philadelphia	W Bates and H. R Hawthorne	2 081	8 713	49	29	9	7/1	3	
Hahnemann Hospital★1	Philadelphia	W L Martin	3 729	9 941	137	65	8	9/1	4	50
Hospital of the Univ of Pennsylvania★1 7	Philadelphia	I S Ravdin	3 655	5 744	73	57	18	Varies	4	100
Jefferson Medical College Hospital★	Philadelphia	T A Shallow and J H Gibbon	2,870	9 724	94	46	17		4	
Jewish Hospital★1	Philadelphia		3 127		119	58	5	7/1	3	50
Lankenau Hospital★1	Philadelphia	J M Deaver and G C Engel	2 841	12,906	70	51	6	7/1	4	50
Mount Sinai Hospital★1	Philadelphia	B Lipshutz and L Kaplan	1,942	12,242	35	32	2	7/1	3	50
Pennsylvania Hospital★	Philadelphia	J B Flick	1 693	10,255	73	23	6	Varies	4	20
Philadelphia General Hospital★1	Philadelphia		2,792		165		7	7/1	3	75
Presbyterian Hospital★	Philadelphia	Dr Williamson and Dr Bates	2,192	5 690	58	35	4	7/1	3	
Temple University Hospital★1	Philadelphia	W E. Burnett	2,003	2,556	77	46	7	7/1	3	50
Woman's Hospital★1	Philadelphia	Dr Smyth	951	3,500	11	10	2	7/1	3	
Children's Hospital 1	Pittsburgh	E W Meredith and G V Foster	1,258	2,753	17	10	1	7/1	*	41.66
Mercy Hospital★1	Pittsburgh	H H Donaldson	4 480	5,956	63	16	5	7/1	3	100
Montefiore Hospital★1	Pittsburgh.	H Frankenstein	1 418	2,100	41	16	8	7/1	3	50
Pittsburgh Hospital★1	Pittsburgh	J D Singley	1 965	3 726	63	16	2	8/1	3	100
Pittsburgh Medical Center★1 89	Pittsburgh	F W Meredith	1,555	2 603	28	14	10	7/1	3	41 67
St Francis Hospital★1	Pittsburgh..	I H Wagner	4 635	2,923	83	10	4	7/1	3	100
Western Pennsylvania Hospital★1	Pittsburgh	L. H Landon	4,203	1 974	89	23	8	7/1	4	100
Robert Packer Hospital★	Sayre Pa	D Guthrie	2,702	7 652	92	61	5	7/1	4	150
Williamsport Hospital★	Williamsport Pa	A F Harot	1,2 6	12,044	25	8	2	7/1	3	100
York Hospital★	York Pa	J F Bacon	2,101	641	93	43	3	7/1	3	100
Rhode Island Hospital★1	Providence R. I	J M Beardsley	4 669	8,366	205	95	6	1/1	3	50
Roper Hospital★1	Charleston S C	F E Kredel	2,013	4,268	61	34	6	7/1	4	50
Columbia Hospital★1	Columbia S C	G H Bunch	2,251	6 658	91	34	7	7/1	3	75
Baroness Erlanger Hospital★1	Chattanooga Tenn	W D L Record	4 681	3,747	72	26	12	7/1	4	75
Knoxville General Hospital★	Knoxville Tenn	C C Smeltzer	1,588	2,611	60	9	2	7/1	3	95
Baptist Memorial Hospital★	Memphis Tenn	E G Kelly	3,357	854	65	22	6	7/1	4	75
John Gaston Hospital★1	Memphis Tenn	H. Wilson	2 159	13 591	87	52	7	7/1	4	
Methodist Hospital★1	Memphis Tenn	J A. Crisler	2,014	2,182	27	11	4	7/1	3	75
St Joseph Hospital★1	Memphis Tenn	A J Grobmyer	1 728		20	5	8	7/1	3	100
George W Hubbard Hospital of Meharry Medical College★1	Nashville Tenn	M Walker	954	6 154	51	19	7	7/1	3	100
Nashville General Hospital★	Nashville Tenn	C M Miller	1 438	21,916	60	12	10	7/1	3	52.50
St Thomas Hospital★1	Nashville, Tenn	L W Edwards	4,886		78	30	11	7/1	4	150
Vanderbilt University Hospital★1	Nashville Tenn	B Brooks	3,332	10,094	111	60	10	7/1	4	35 41
Baylor University Hospital★1	Dallas Texas	H. W Cochran	2,382	1,[illegible]08	56	23	7	7/1	3	50
Gaston Hospital	Dallas Texas	J V Goode	2,475	1,968	14	9	3	7/1	*	110
Parkland Hospital★1	Dallas Texas	C Moyer	1,231	7 414	56	24	12	7/1	4	50
University of Texas Medical Branch Hosp John Sealy Hospital★1	Galveston Texas	R M. Moore	880	5 266	41	23	14	7/1	4	75
Hermann Hospital★1	Houston Texas	G Waldron	2 186	1,928	50	27	4	7/1	3	50
Jefferson Davis Hospital★	Houston Texas	M. E DeBakey	1,539	12,815	86	22	12	7/1	4	25
M. D Anderson Hospital for Cancer Research	Houston Texas								*	
Methodist Hospital★1	Houston Texas	L L D Tuttle	825	74	4	2	2	7/1	*	75
Scott and White Hospital★1	Temple Texas	A. C Scott and O B Brindley Sr	3,520		45	19	20		3	50
Wichita Falls Clinic Hospital★	Wichita Falls Texas	W E Crump	1 050	20,549	9	4	2		3	300
Dr W H Groves Latter Day Saints Hosp ★1	Salt Lake City	L. J Taufer	7 003		91	48	5	7/1	3	75
Holy Cross Hospital★	Salt Lake City	J J Galligan	2,781		42	10	4	7/1	*	75
St Mark's Hospital★	Salt Lake City	M C Lindem	2 017	556	40	18	1	7/1	3	100
Salt Lake County General Hospital★1	Salt Lake City	P B Price	1 000	10 577	66	40	6		4	
Mary Fletcher Hospital★	Burlington Vt	A B Mackay	1 734	963	14	8	3	7/1	3	50
Alexandria Hospital★1	Alexandria Va	C L Fifer	1 106		22	8	2	7/1	3	87.50
University of Virginia Hospital★	Charlottesville Va	E. P Lehman	2,552	8,568	70	29	13		4	41.67
Chesapeake and Ohio Hospital	Clifton Forge Va	J M. Emmett	3 131	5 387	31	16	4	7/1	3	60
Norfolk General Hospital★1	Norfolk, Va	R L Payne Sr	3 232	3 391	91	21	8	7/1	4	125
Medical College of Virginia Hospital Div ★1	Richmond Va	I A Bigger	3 151	6 002	110	34	19		4	
Jefferson Hospital★	Roanoke, Va	H H Trout	2 494	4 047	29	16	5	7/1	*	125
King County Hospital Unit No 1 (Harborview)★1	Seattle.	H N Harkins	1 821	4 190	89	18	9	7/1	3	90
Virginia Mason Hospital★1	Seattle	J W Baker	1,286		8	7	8	7/1	3	75
Beckley Hospital	Beckley W Va		2,540	15 008	29	16	4	7/1	3	150
Charleston General Hospital★	Charleston W Va	J E. Cannaday and H. A Bailey	2,578	3 699	29	14	4	7/1	3	100
Chesapeake and Ohio Hospital★1	Huntington, W Va	R J Wilkinson	2,783	11,808	36	10	2		*	115
St Mary's Hospital★	Huntington W Va..	F L Coffey	3 881	2,610	40	11	3	7/1	3	100
Laird Memorial Hospital	Montgomery W Va	W R Laird	2,954	13 321	45	28	2	7/1	3	150
St Joseph's Hospital★	Parkersburg W Va								3	
Myers Clinic Hospital 1	Philippi W Va	H. C Myers	1 224	7 600	14	10	3	7/1	3	200
Madison General Hospital★	Madison Wis	J P Malec	1,204		52	21	3	7/1	3	50
State of Wisconsin General Hospital★1	Madison Wis	E R Schmidt	2 105	6 734	70	53	13	1/1 7/1	3	25
Columbia Hospital★	Milwaukee	F Raine	1,140		25	19	5	7/1	3	75
Evangelical Deaconess Hospital★	Milwaukee	P M. Currer	3 018		52	35	5	7/1	3	150
Milwaukee Children's Hospital	Milwaukee								*	
Milwaukee County Hospital★1	Milwaukee	O F Conroy	3 39[illegible]	14 151	82	25	15	7/1	3	175.56
Milwaukee Hospital★	Milwaukee	L Schulz	1,203		30	20	4	7/1	3	
St Joseph's Hospital★	Milwaukee	F Stratton	4,852		51	13	5	7/1	3	75
Queens Hospital★1	Honolulu Hawaii	J E. Stode	1,341	3,394	15	11	5	7/1	3	75
San Juan City Hospital★	San Juan Puerto Rico								3	

Numerical and other references will be found on page 1215

26 SURGERY—Continued

The following services are approved by the Council as offering satisfactory training of one or two years duration in preparation for residency training in the surgical specialties (Ref Surgical Residencies, page 1216, this issue)

Hospitals, 149 Assistant Residencies and Residencies, 408

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered [8]	Beginning of Service (1950)	Beginning Stipend (Month)
Federal Security Agency									
St Elizabeth's Hospital*[1]	Washington, D C	W A Parker	804	7,605	111	75	2	7/1	n
Nonfederal									
City Hospital*	Mobile, Ala	W R Meeker	1,007	4,976	35	20	2	7/1	100
St Joseph's Hospital	Phoenix, Ariz	P T Brown	3,753		33	22	1	7/1	150
Tucson Medical Center*[1]	Tucson, Ariz.	R W Rudolph	1,878	937	30	18	2	7/1	180
Arkansas Baptist Hospital*	Little Rock, Ark	R M Eubanks	6,710		103	32	3	7/1	100
St Vincent Infirmary	Little Rock, Ark	H G Hollenberg	4,626		49	11	3	7/1	100
Glendale Sanitarium and Hospital*	Glendale, Calif	J Janzen	2,678		39	21	2	7/1	160
Seaside Memorial Hospital*[1]	Long Beach, Calif	O A Lauer	3,045		51	29	4	7/1	150
California Hospital*	Los Angeles	W H Olds	2 094	806	27	12	7	7/1	100
Queen of Angels Hospital*	Los Angeles	W J Sullivan	3,702	549	93	41	3	7/1	100
Santa Fe Coast Lines Hospital*	Los Angeles	L Chaffin	989		16	5	2	7/1	105
Peralta Hospital	Oakland, Calif	E G Clausen	4,365		83	45	3	7/1	125
Collis P and Howard Huntington Memorial Hospital*	Pasadena, Calif	J M Marshall	3 511		57	39	2	7/1	130
Children's Hospital*[1]	San Francisco	A Kilgore	600	2,255	11	6	1	7/1	50
Mary's Help Hospital*[1]	San Francisco	E Carlson	2,293	4,567	35	11	2	7/1	150
St Luke's Hospital*[1]	San Francisco	G D Delprat	4,461	1,433	41	21	2	7/1	100
St Mary's Hospital*	San Francisco	F Butler	4,526	2,226	46	23	6	7/1	100
Santa Clara County Hospital*	San Jose, Calif	G Arminini	655	2,267	59	30	3	7/1	235
Community Hospital of San Mateo County[1]	San Mateo, Calif	K Prindle	1,073	3,000	38	19	1	7/1	200
St John's Hospital*	Santa Monica, Calif	M H Rabwin	2,950	793	6	4	1	9/1	150
Children's Hospital[1]	Denver	G B Packard	3 844	1,298	26	26	1	7/1	50
Colorado State Hospital[1]	Pueblo, Colo	E B Ley	562	4,795	33	18	3	7/1	275
Lawrence and Memorial Associated Hospitals*[1]	New London, Conn	F B Hartman	2,462		52	7	2	7/1	125
Norwalk Hospital*	Norwalk, Conn	F C Beck	1,482	2,130	23	14	2	7/1	155
St Mary's Hospital*[1]	Waterbury, Conn	A Jackson	2,106	3,714	43	13	3	7/1	150
Sibley Memorial Hospital*	Washington, D C	P S Putzki	4,447	90	49	33	5	7/1	75
Riverside Hospital[1]	Jacksonville, Fla	F Jelks	553	7,197	16	9	1	7/1	150
St Luke's Hospital*	Jacksonville, Fla	K A Morris	551	3 985	8	1	2	7/1	125
Orange Memorial Hospital*[1]	Orlando, Fla								
Georgia Baptist Hospital[1]	Atlanta, Ga	T C Davison	1,553	817	26	9	6	7/1	75
Piedmont Hospital*[1]	Atlanta, Ga	F W McRae	2,531		21	11	4	7/1	75
St Joseph's Infirmary*[1]	Atlanta, Ga	W P Nicolson	2,832	1,509	45	21	3	7/1	100
Henrotin Hospital*[1]	Chicago	C B Puestow	1,444		8	1	1	7/1	100
Hospital of St Anthony De Padua*[1]	Chicago	F B Olentine	4,890		17	10	1	7/1	150
Illinois Central Hospital*	Chicago	C O Guy	2,031	12 717	57	10	2	1/1, 7/1	150
Loretto Hospital*	Chicago	L F Pizak	1,794		21	17	2	7/1	200
Norwegian American Hospital*[1]	Chicago	P Snyder	905		11	7	3	7/1	150
Ravenswood Hospital*[1]	Chicago	H T Haver	2,794	2,624	61	50	3		
St Anne's Hospital*	Chicago	P F Fox	1,765		58	36	2	1/1	150
St Joseph Hospital*	Chicago	H McKenna	1 937	606	12	10	2	7/1	75
Women's and Children's Hospital*[1]	Chicago	I Giryotas	506	532	3	8		7/1	75
Woodlawn Hospital*	Chicago	H P Jenkins	509	716	17	11	1	7/1	150
Little Company of Mary Hospital*	Evergreen Park Ill	E D Huntington	3 636		9	17	3	7/1	100
St Vincent's Hospital*[1]	Indianapolis	G J Garceau	2,944	2,131	101	33	4		200
Ball Memorial Hospital*[1]	Muncie, Ind	W C Moore	3 670		77	39	3	7/1	100
St Margaret's Hospital*	Kansas City, Kan	M Laing	1 920	2,045	26		5	7/1	150
St Francis Hospital*[1]	Wichita, Kan	W J Biermann	3,699		122	35	2	7/1	125
Good Samaritan Hospital*	Lexington, Ky	A E Grimes	2,328	1,204	57	15		7/1	125
Hotel Dieu, Sisters' Hospital*[1]	New Orleans	F F Boyce	2,822		82	41	6	7/1	75
Hospital for Women*	Baltimore	W Rienhoff	931	1,550	4	2	5	7/1	85
St Joseph's Hospital*[1]	Baltimore	W R Geraghty	3 608	6 241	39	23	5	7/1	50
Suburban Hospital	Bethesda, Md	A L Riddick	1,509	1,003	20	8	1	7/1	100
Lahey Clinic	Boston	F H Lahey	4,534	27,293	61	35	25	Varies	125
Cambridge City Hospital*	Cambridge, Mass	H E Groden	1,425	8,111	62	24	2	7/1	75
Lynn Hospital*	Lynn, Mass	C F Twomey	5,765	8,295	89	40	2	7/1	75
Malden Hospital	Malden, Mass	W E Garrey					4	7/1	50
Quincy City Hospital*	Quincy, Mass	A L Hanrahan	2 103	737	64	27	2	7/1	125
Worcester City Hospital*[1]	Worcester, Mass	B F Andrews	2 082	3,145	109	34	4	4/1	100
Woman's Hospital*	Detroit	W F Johnston	2 006		30	16	2	7/1	165
Asbury Hospital*[1]	Minneapolis	S R Maxeiner	3 332		14	7	1	7/1	150
Lutheran Deaconess Home and Hospital*	Minneapolis	G S Bergh	840		10	3	5	7/1	175
Swedish Hospital*	Minneapolis		7,445				3	7/1	125
Mercy Hospital Street Memorial*[1]	Vicksburg, Miss	A Street	2,419	29,068	48	19	3	7/1	125
St Louis County Hospital*	Clayton, Mo	L A Will	1,143	7,880	98	56	8	7/1	80
Ellis Fischel State Hospital[1]	Columbia, Mo	J J Modlin	1,172	6,788	41	33	6	7/1	
Menorah Hospital*	Kansas City, Mo	H Lapp	1,450		15	6	2	7/1	125
St Mary's Hospital*[1]	Kansas City, Mo	J F Castles	3,131		25	16	2	7/1	125
Missouri Methodist Hospital*	St Joseph, Mo	L P Forgrave	1,278	547	33	19	2	7/1	250
De Paul Hospital*[1]	St Louis	H A Hassett	2 025	182	40	18	4	7/1	90
St Anthony's Hospital*[1]	St Louis	F T Tainter	8 453		47	29	1	7/1	150
St Luke's Hospital*[1]	St Louis	L H Jorstad	2,334	2,812	43	16	5	7/1	75
Montana Deaconess Hospital*	Great Falls, Mont	L L Howard	1,340	1,842	20	11	2	7/1	200
Hackensack Hospital*[1]	Hackensack N J	A I Mader, Jr	4 672	1,182	51		7	7/1	125
Monmouth Memorial Hospital*	Long Branch, N J	W A Rullman	1,785	567	65	28	2	7/1	150
Mountainside Hospital*[1]	Montclair, N J	R T Hobart	3,935	4,903	77	27	2	7/1	100 74
Fitkin Memorial Hospital*	Neptune N J	O K Parry	1,446	3,451	33	6		7/1	150
Presbyterian Hospital[1]	Newark N J	G Blackburne	4,644	156			4		
Muhlenberg Hospital*	Plainfield N J	L Salvati	3,408	2,023	108	42		7/1	150
St Francis Hospital*[1]	Trenton, N J	L Haggerty	4,924	2,042	107	24	3	7/1	100
Greenpoint Hospital*[1]	Brooklyn	J Smith, Jr	1,310	11,334	63	19	4	7/1	130
Norwegian Lutheran Deaconess Home and Hospital*[1]	Brooklyn	R Tate	2,078	1,942	66	27	3	7/1	50
St Mary's Hospital*	Brooklyn	T M Brennan	2,350	3,932	32	10	2	7/1	80
Children's Hospital[1]	Buffalo	W L Machemer	749		21	16	2	7/1	25
Deaconess Hospital*[1]	Buffalo	T T Jacobs	4,924	1,732	66	23	7	7/1	100
Sisters of Charity Hospital*[1]	Buffalo	J C Brady	2,594		88	24	3	7/1	150
Mary McClellan Hospital	Cambridge, N Y	D M Vickers	847	4,086	22	12	1	7/1	
Gouverneur Hospital*[1]	New York City	F J McGowan	733	10,402	52	14	8	7/1	80
Hospital for Special Surgery	New York City	F Beekman	1,548	2,973	17	9	4	7/1	60

Numerical and other references will be found on page 1215

26 SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered •	Beginning of Service (1950)	Beginning Stipend (Month)
Knickerbocker Hospital*¹	New York City	R. H Patterson	2,024	3 457	52	9	5	7/1	110
Lebanon Hospital*¹	New York City	M Cohen and B Sherwin	2 188	750	57	18	2	7/1	100
Mother Cabrini Hospital*	New York City	Dr Alvich	1 103	2,296	34	10	2		100
New York Infirmary*¹	New York City	A Hubert	650	1 750			2	7/1	75
Sydenham Hospital*	New York City	J B Stenbuck	1 122	2 008	34	6	2	7/1	130
White Plains Hospital*	White Plains, N Y	E G Ramsdell	2 900		38	28	2	7/1	75
James Walker Memorial Hospital*¹	Wilmington N C	J W Hooper	4 414	6 375	63	15	4	7/1	125
City Memorial Hospital¹	Winston Salem N C	J F Marshall	1 740	3,385	42	19	4	7/1	150
Kate Bitting Reynolds Memorial Hospital*	Winston Salem N C	J M Walker	2 349	7,293	53	23	3	7/1	150
Bismarck Hospital	Bismarck N D	R H. Waldschmidt	2 018	35,212	18	8	2		300
St Luke s Hospital*¹	Fargo N D	V G Borland	831		7	3	2	7/1	150
Trinity Hospital*¹	Minot N D	A L Cameron	610	11 101	9	8	3	7/1	150
Deaconess Hospital*	Cincinnati	D E Earley	2,745		39	18	3	7/1	125
Fairview Park Hospital*¹	Cleveland	W F Smith	1,225	218	20	9	4	7/1	100
Doctors Hospital¹	Cleveland Hgts Ohio	R R Renner	1 339		26	13	3		200
St Elizabeth Hospital*¹	Dayton Ohio	C J Darby	7 074		45	13	1	7/1	250
Mercy Hospital*¹	Hamilton Ohio	G E Marr	2 282	389	45	15	3	7/1	100
St Anthony Hospital*	Oklahoma City	L J Starry	4 373	976	62	82	2	7/1	75
Wesley Hospital*¹	Oklahoma City	J H Robinson	1 728	1 062	57	23	3	7/1	150
St John s Hospital*¹	Tulsa Okla	D L Garrett	1,833		34	19	4		150
Providence Hospital*	Portland Ore	L. P Gambee	3 691		85	47	2	7/1	75
Sacred Heart Hospital*¹	Allentown Pa	W A Hausman	4 462	8 615	109	51	3	7/1	150
Hazleton State Hospital	Hazleton Pa								
Doctors Hospital*	Philadelphia	J W Bransfield	1 328	1 752	39	18	1	7/1	200
Frankford Hospital*¹	Philadelphia	B H Chandlee and R Lorry	1,291	2 011	50	14	2	7/1	150
Hospital of the Woman s Medical College of Pennsylvania*¹	Philadelphia	L K Ferguson	1 04[illegible]	7 888	18	6	2	7/1	60
Misericordia Hospital	Philadelphia								
St Joseph s Hospital	Philadelphia								
St Mary s Hospital*	Philadelphia								
Allegheny General Hospital*	Pittsburgh	J C Burt	2 233	4 670	94	15	1	7/1	100
Reading Hospital*¹	Reading Pa	W E Lebkicher	3 067	1 487	80	45	2	7/1	100
St Joseph s Hospital*	Reading Pa	Dr Impink	1,360	2 370	35	17	1	7/1	100
Washington Hospital*	Washington Pa	P P Riggle	1 395	3 035	56	12	2	7/1	175
Mercy Hospital*¹	Wilkes Barre Pa	F M Pugliese	1 972	1 101	17	7	2	7/1	100
Wilkes-Barre General Hospital*¹	Wilkes Barre Pa	M C Rumbaugh	4 876	3,005	102	17	1	7/1	100
Columbia Hospital*	Wilkinsburg Pa	W B Hetzel	1 951		28	8		10/1	150
Mid State Baptist Hospital*¹	Nashville Tenn	R. O Fessey	979		21	7	4	7/1	150
Brackenridge Hospital*	Austin Texas	F Zidd	1 872	2 810	40	27	1	7/1	100
Methodist Hospital*¹	Dallas Texas	B E Park	3 219	97	49	15	6	7/1	75
St Paul s Hospital*¹	Dallas Texas	O W Gibbons	974	2 094	12	1	6	7/1	100
Harris Hospital*¹	Fort Worth Texas	W B Swift	1 547	542	16	9	4	7/1	100
Memorial Hospital¹	Houston Texas	L E Williford	6 549		51	9	3		150
St Joseph s Infirmary*	Houston Texas	M. B Stokes	2,443	689	15	7	3	1/1	150
Southern Pacific Hospital	Houston Texas	T R. Gandy	[illegible]	6 030	3	8	3		125
Thomas D Dee Memorial Hospital*	Ogden Utah	C H Jenson	2 005		30	11	2		100
Bishop de Goesbriand Hospital*¹	Burlington Vt	Dr Gladstone	751	58	6	4	2	1/1 7/1	100
Arlington Hospital¹	Arlington Va	J T Hazel	581		7	5	2		
Riverside Hospital*¹	Newport News Va	E V Siegel	1 239	3,309	14	5	3	7/1	150
De Paul Hospital*¹	Norfolk Va	C O Smith	2 734	1 587	44	21	4	7/1	100
St Elizabeth s Hospital¹	Richmond Va	G W Horsley	1,236	120	10	8	2		100
Lewis Gale Hospital*	Roanoke Va	W L Sibley	1 043	14 705	11	5	2	7/1	150
Doctors Hospital*	Seattle	D K. Crystal	3 830		39	30	2	7/1	100
Providence Hospital*¹	Seattle	R L Zech	1 986	280	21	17	3	7/1	100
Swedish Hospital*¹	Seattle	R. Loe	3 814		39	24	2		100
St Luke s Hospital*	Spokane Wash	L O Pence	2,308		60	42	1	7/1	125
La Crosse Lutheran Hospital*¹	La Crosse Wis	S Gundersen	1 714		30	17	1	7/1	150
Methodist Hospital*¹	Madison Wis	A. S Jackson	1 891		43	19	3	7/1	140
St Mary s Hospital*	Madison Wis	J C Dean	2 660		48	17	1	7/1	150
Mount Sinai Hospital*	Milwaukee	D V Ficonin	1 627	672	32	18	6	7/1	75
St Luke s Hospital*¹	Milwaukee	J Garland	1 327		14	5	1	7/1	205
St Mary s Hospital*	Milwaukee	O Fidler	5 003		40	8	1	7/1	

27 THORACIC SURGERY

The following services are approved by the Council and the Board of Thoracic Surgery Residencies in this specialty have been approved without specifying the number of years for which they are accredited The Board will give appropriate credit for training in these hospitals on an individual basis

Hospitals 43 Assistant Residencies and Residencies 86

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered •	Beginning of Service (1950)	Beginning Stipend (Month)
United States Army									
Fitzsimmons General Hospital*	Denver	J H Forsee	303	305	6	4		1/1 7/1	n
Army Medical Center*¹⁵	Washington D C	F N Cooke	388	284	8	8		7/1	n
Veterans Administration									
†Veterans Admin Hospital*¹	Van Nuys Calif	J A. Weinberg	178	4,913	7	7		1/1 7/1	n
†Veterans Admin Hospital	Chamblee Ga	O Abbott	250	25	14	10	2	7/1	n
Veterans Admin Hospital	Hines Ill	J Head	433		27	13	3	1/1 7/1	n
Veterans Admin Hospital	Rutland Hghts Mass	J J Cincotti	202	162	8	2	1	7/1	n
†Veterans Admin Hospital¹	Minneapolis								
†Veterans Admin Hospital¹	Castle Point N Y	R Friedlander	849	25				1/1 7/1	n
Veterans Admin Hospital¹	New York City	F B Berry	188	571	11	8	3	1/1 7/1	n
Veterans Admin Hospital	Oteen N C	J D Murphy	1 050	100	33	103	7	7/1	n
Veterans Admin Hospital¹	Cleveland	E B Kay	137	42	12	1	2	7/1	n
†Veterans Admin Hospital	Memphis Tenn	F A Hughes	383		20	16	4	7/1	n
Veterans Admin Hospital¹	McKinney Texas	J Carswell	190		12	10	2	7/1	n
Veterans Admin Hospital¹	Richmond Va	F P Coleman	243		22	10	2	7/1	n

Numerical and other references will be found on page 1215

27 THORACIC SURGERY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Beginning Stipend (Month)
Nonfederal									
Los Angeles Sanatorium	Duarte, Calif	A Goldman	204		7	5	2	7/1	
Highland Alameda County Hospital★[1]	Oakland Calif	P C Sampson					1		135
Olive View Sanatorium[1]	Olive View, Calif	J Skillen					4		417
†National Jewish Hospital[1]	Denver	J B Grow					1	7/1	150
Norwich State Tuberculosis Sanatorium (Uncas on Thames)[1]	Norwich, Conn	W O Kelley	120		7	3	1	7/1	400
†University Hospital★	Augusta, Ga	R C Major	225	406	7	6	2	7/1	40
City of Chicago Municipal Tuberculosis Sanitarium	Chicago	G W Holmes	578	245	23	12	5	1/1 7/1	125
Boston Sanatorium	Boston	J Streider					3		
University Hospital★[1]	Ann Arbor, Mich	J Alexander	580	1 941	30	26	3	7/1	139 60
Herman Kiefer Hospital[1]	Detroit	E J O Brien	1,001	656	7	3	4	7/1	385
Mississippi State Tuberculosis Sanatorium[1]	Sanatorium, Miss	L R Reid	163	139	1	1		7/1	200
Barnes Hospital★	St Louis	E A Graham	648		33	33	1	7/1	25
Berthold S Pollak Hospital for Chest Diseases	Jersey City, N J	F Bortone	389		6		2		100
Kings County Hospital★[1]	Brooklyn	L Hochberg	363	665	50	17	1	7/1	130
Edward J Meyer Memorial Hospital★[1]	Buffalo	J D Stewart	221		30	18	2	7/1	100
Hermann M Biggs Memorial Hospital[1]	Ithaca, N Y	R Douglass	217				1	1/1, 7/1	250
Triboro Hospital[1]	Jamaica N Y	D A Mulvihill			13	7	4		80
Mount Morris Tuberculosis Hospital	Mount Morris, N Y								
Bellevue Hospital★[1] Div I—Columbia University	New York City								
Metropolitan Hospital★[1]	New York City	S A Thompson	88		10	8	2	7/1	80
Homer Folks Tuberculosis Hospital	Oneonta N Y	A M Skinner	135	12	5	4	2	7/1	300
Ray Brook State Tuberculosis Hospital	Ray Brook N Y	J Gordon	147	110	2	2	1	1/1, 7/1	
Sea View Hospital[1]	Staten Island, N Y	J R Davidson	333		28	9	6	1/1, 7/1	130
City Hospital★[1]	Cleveland	S O Freedlander	164	787	12	6	2	7/1	70
University of Oregon Medical School Hospitals and Clinics★[1]	Portland Ore	W Conklin	230	6 717	6	6	4	7/1	75
Episcopal Hospital★[1]	Philadelphia	R P Glover	85		12	7	2		
Hahnemann Hospital★[1]	Philadelphia								
Baylor University Hospital★[1][60]	Dallas, Texas	R R Shaw	157		6	2	1		50
Muirdale Sanatorium	Milwaukee	J Steele					2		

28 UROLOGY

The following services are approved by the Council and the American Board of Urology

Hospitals 213 Assistant Residencies and Residencies, 485

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
United States Army										
Letterman General Hospital★	San Francisco	J W Schwartz	448	2,957	5	5	3	1/1, 7/1	2	n
Fitzsimmons General Hospital	Denver	J N Furst	464	1 321	3	2		1/1 7/1	1	n
Army Medical Center★	Washington, D C	J C Kimbrough	613	4,604	10	10	7	7/1	3	n
Brooke Army Medical Center★	San Antonio Texas	G R Hamilton	1 298	9,405	16	14	6	7/1	3	n
Gorgas Hospital★	Ancon C Z	R W Satterthwaite	629	4,814	20	15	8	7/1	3	n
Tripler General Hospital★	Moanalua, T H	C O Dodson	1,122	2,144				7/1	3	n
United States Navy										
U S Naval Hospital★	Long Beach, Calif	L A. Newton	1,062	3,164	10	8	2	Varies	3	n
U S Naval Hospital★	Oakland, Calif	A C Abernethy	786		3	3	2		3	n
U S Naval Hospital★	San Diego Calif	P E Huth	933	2,648	12	10			3	n
U S Naval Hospital★[1]	Bethesda, Md	H J Cokely	7,749	3,247	29	21	5	Varies	3	n
U S Naval Hospital★[1]	St Albans, N Y	S Johnson	449	872	13	11			3	n
U S Naval Hospital★	Philadelphia	J W Rogers	737	2,088	15	14	2	1/1, 7/1	3	n
United States Public Health Service										
U S Marine Hospital★[1]	Baltimore	J S Haines	783	2,032	3	3	2	7/1	2	n
U S Marine Hospital★[1]	Stapleton, S I, N Y	C Ferguson	615	760	13	8	3	7/1	3	n
Federal Security Agency										
Freedmen's Hospital★[1]	Washington, D C	R F Jones	302	3,094	13	7	1	7/1	3	n
Veterans Administration										
†Veterans Admin Hospital★	Los Angeles	G J Thomas	481	1,939	31	25	5	7/1	3	n
Veterans Admin Hospital	San Francisco	H M Weyrauch	221	589	6	5	3	7/1	3	n
Veterans Admin Hospital★[1]	Van Nuys, Calif	D Malcolm	666	1,117	4	4	3	1/1, 7/1	3	n
Veterans Admin Hospital	Newington, Conn	T H Frazier	354	455	10	7	1	7/1	2	n
Veterans Admin Hospital	Washington, D C								3	n
Veterans Admin Hospital	Chamblee, Ga	M K. Bailey	586	30	9	6	2	7/1	3	n
Veterans Admin Hospital	Hines, Ill	F Lloyd	2 750		43	31	9	1/1, 7/1	3	n
†Veterans Admin Center[1]	Wadsworth, Kan	R W Stitt	297		19	2	2	1/1, 7/1	3	n
Veterans Admin Hospital[1]	Louisville, Ky	M I Schwalbe	518	2,075	9	3	3		2	n
Veterans Admin Hospital[1]	New Orleans	E Burns	339	624	13	11	2	7/1	3	n
Veterans Admin Hospital	Fort Howard Md	H J Meisel	219	118	9	7	2	7/1	3	n
Veterans Admin Hospital (West Roxbury)	Boston	S Vose	366	561	6	5	2	1/1, 7/1	2	n
Veterans Admin Hospital[1]	Framingham, Mass	E P Stone	443	896	8	7	2	1/1	2	n
Veterans Admin Hospital	Minneapolis	C D Creevy	788	875	22	12	2	7/1		n

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Numerical and other references will be found on page 1215

28 UROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered*	Beginning of Service (1960)	Length of Approved Program (Years)	Beginning Stipend (Month)
Veterans Admin Hospital[1]	Jefferson Bks Mo	J J Cordonnier	501		19	12	3	7/1	3	n
Veterans Admin Hospital	Lincoln Neb	A D Munger	308		6	3	2	7/1	3	n
Veterans Admin Hospital	Albuquerque N M	J D Shea	282		1		1	7/1	3	n
Veterans Admin Hospital	New York City	A L Dean	797	1 471	30	20	6	1/1 7/1	2	n
Veterans Admin Hospital[1]	Staten Island N Y	S N Kessler	392	1,867	4	4	2	7/1	3	n
Veterans Admin Hospital[1]	Cleveland	J J Joelson	554	72	15	14	2	7/1	3	n
Veterans Admin Hospital	Dayton Ohio						1	7/1	3	n
Veterans Admin Hospital	Portland Ore	P B Potampa	491		9	8	1	1/1 7/1	3	n
Veterans Admin Hospital	Aspinwall Pa	C A Kuehn	444		10	4	3	7/1	3	n
Veterans Admin Hospital	Columbia S C	K M Lippert	526		7	4	4		3	n
†Veterans Admin Hospital	Memphis Tenn	F M Jacobs	522	398	14	7	2	7/1	3	n
Veterans Admin. Hospital[1]	Dallas Texas	R C Smith	261		9	8	1	1/1	3	n
Veterans Admin Hospital[1]	Houston Texas	A W Miles	180		4	3	2	7/1	2	n
Veterans Admin. Hospital[1]	McKinney Texas	P H Duff	264	2 600	5	4	1	7/1	3	n
Veterans Admin Center[1]	White River Jct Vt	W L McLaughlin	358		6	6	1	9/1	2	n
Veterans Admin Hospital[1]	Richmond Va	R. C Bunts	574	1,862	7	6	4	7/1	3	n
Veterans Admin Center	Milwaukee	F Raine	490	711	19	14	4	7/1	3	n
Nonfederal										
†Carraway Methodist Hospital*	Birmingham Ala	L Timberlake	290	3 086	3	2	1	7/1	3	150
Jefferson Hillman Hospital*[1]	Birmingham Ala	B Barelare	498	5 008	23	8	4	7/1	3	50
Los Angeles County Hospital*[1]	Los Angeles	J J Crane	2,509	13 052	183	68	7	Varies	3	165
†Presbyterian Hospital Olmsted Memorial*	Los Angeles					-	1		2	100
White Memorial Hospital*	Los Angeles	R W Barnes	503	5,990	16	7	1	7/1	3	120
San Diego County General Hospital*[1]	San Diego Calif	R J Prentiss	268	2,467	24	14	2	7/1	2	125
Franklin Hospital*	San Francisco	F Hinman Sr	789		11	5	3	7/1	2	100
San Francisco Hospital*[1]	San Francisco						1	7/1	3	175
Southern Pacific General Hospital*[1]	San Francisco	T E Gibson	644	12 951	6	2	2	7/1	2	
Stanford University Hospitals*[1]	San Francisco	H M Weyrauch	485	3 073	8	3	2	7/1	3	50
University of California Hospital*[1]	San Francisco	F Hinman	415	7 430	7	6	1	7/1	3	75
Santa Clara County Hospital*	San Jose Calif	E Henderson	240	2 173	9	8	1	7/1	2	235
Harbor General Hospital*	Torrance Calif	L O Shaw	310	1 085	26	16	2	7/1	3	165
University of Colorado Medical Center										
Colorado General Hospital*	Denver	D R Higbee	401	3 013	21	16	3	7/1	3	75
Denver General Hospital*[1] [9]	Denver	D E Newland	429		21	13	1	7/1	3	75
Corwin Hospital*	Pueblo Colo	H T Low	181	850			1	7/1	3	75
Grace-New Haven Community Hospital New Haven Unit (University Service)*[1]	New Haven, Conn	C Deming	614	2,354	20	11	1	7/1	3	40
Hospital of St Raphael*[1]	New Haven, Conn	L L Maurer	501	218	11	4	1	7/1	3	75
Waterbury Hospital*[1]	Waterbury Conn	H J Stettbacher	478	244	14	6	1	7/1	2	100
Gallinger Municipal Hospital*[1]	Washington D C	L Lewis	341	1 799	13	7	3	7/1	3	100
Duval Medical Center*	Jacksonville Fla	R B McIver	300		29	19	1	7/1	2	125
St Vincent s Hospital*	Jacksonville Fla	R B McIver	343		12	7	1	7/1	2	100
†Jackson Memorial Hospital*[1]	Miami Fla	W L Fitzgerald	880	1,938	25	10	1	7/1	2	60
Orange Memorial Hospital	Orlando Fla								2	
Grady Memorial Hospital*[1] [3]	Atlanta Ga	M K. Bailey	855	8 620	36	10	6	7/1	3	20
University Hospital*	Augusta Ga	J R Rinker	382	800	9	3	2	7/1	2	40
Alexian Brothers Hospital	Chicago	E F Hess	376		17	5	1	7/1	1	125
Cook County Hospital*	Chicago	W J Baker	1 791	3,001	195	50	3	1/1 7/1	3	32
Mercy Hospital Loyola University Clinics*[1]	Chicago	H E Landes	473		5	1	1	7/1	3	25
Michael Reese Hospital*[1]	Chicago	L Shapiro	706	1 336	29	19	3	1/1	3	25
Mount Sinai Hospital*	Chicago	L A Maslow	422	1 128	22	8	1	4/1	2	50
Presbyterian Hospital*	Chicago	N J Heckel	847	3 959	15	10	3		3	25
Provident Hospital*	Chicago	W S Grant	213	1,319	12	3	1	7/1	2	50
St. Luke s Hospital*	Chicago	H Culver	604		14	10	2	7/1	3	25
University of Chicago Clinics*	Chicago	C B Huggins	315	5 866	8	7	3		3	
Wesley Memorial Hospital*[1]	Chicago	V J O Conor	811		14	7	1	7/1	3	25
†Evanston Hospital*	Evanston Ill.	J L Farrell	283	433	1		1	7/1	3	50
St Francis Hospital*	Evanston Ill	B E Fillis	605	84	13	7		7/1	1	75
St Francis Hospital*[1]	Peoria Ill	A Sprenger	652	243	23	10	2	7/1	3	100
Indianapolis General Hospital*	Indianapolis	E. Ruppel	370	2 053	35	15	2	7/1	3	80
Indiana University Medical Center*[1]	Indianapolis	H O Mertz	317	2,511	12	9	2	7/1	3	83.33
Methodist Hospital*[1]	Indianapolis	R. D Howell	1,391	286	26	10	2		2	200
University Hospitals*[1]	Iowa City	R H. Flocks	1,949	1 557	47	27	6		3	
University of Kansas Medical Center*	Kansas City Kan	W Valk	615	1 716	26	17	4	7/1	3	100
St Joseph Hospital*	Lexington Ky	E H Ray	734	80	21	11	1	7/1	1	100
Louisville General Hospital*[1]	Louisville Ky	R Lich Jr	338	2,783	18	8	2	7/1	3	75
Charity Hospital of Louisiana*[1]	New Orleans	M Wolf	2,603	18,560	87	41	13	7/1	3	25
Ochsner Foundation Hospital	New Orleans	E Burns	375	11 313	8	7	3	7/1	3	125
Touro Infirmary*[1]	New Orleans	E Vickery	507	3 846	15	6	1	7/1	3	17.50
Shreveport Charity Hospital*	Shreveport La	R. K. Womack	701	2,028	27	14	2	7/1	3	60
Johns Hopkins Hospital*[1]	Baltimore	W W Scott	1 021	4 398	30	21	4	7/1	3	41 66
†Sinai Hospital*[1]	Baltimore		444	882	18	9	4	7/1	3	25
Beth Israel Hospital*	Boston	G Prather	381	2,432			1	7/1	2	41 66
Boston City Hospital*[1]	Boston	G C Prather	537	7 182	27	9	4	7/1	3	140
Lahey Clinic	Boston	E E Ewert	430	5,526	7		4	7/1	3	123
Massachusetts General Hospital*	Boston								3	
Massachusetts Memorial Hospital*[1]	Boston	S N Vose	501	1 240	6	4	2	7/1	3	50
New England Center Hospital[1]	Boston	W F Leadbetter	94	100			1	7/1	3	275
Peter Bent Brigham Hospital*	Boston	J H Harrison		2,177			1	7/1	3	41 66
Mount Auburn Hospital*[1]	Cambridge Mass	H Chamberlin	208	219	7	4	1	7/1	1	100
Worcester City Hospital*[1]	Worcester Mass	L M Felton	578	550	25	17	1	1/1	2	100
University Hospital*[1]	Ann Arbor Mich	R Nesbit	1,256	6 003	15	7	3		3	
City of Detroit Receiving Hospital*[1]	Detroit	G Sewell	696	4 078	34	14	2	7/1	3	189 08
Grace Hospital*[1]	Detroit	L W Hull	1 110		15	4	1	7/1	3	75
Harper Hospital*[1]	Detroit	G Sewell	1,257	1 130	27	13	3	7/1	3	110
Henry Ford Hospital*[1]	Detroit	J K. Ormond	646	16 554	14	9	3	7/1	3	200
Wayne County General Hospital and Infirmary*[1]	Eloise Mich	W L Sherman	832	1 471	41	16	2	7/1	3	235
Minneapolis General Hospital*[1]	Minneapolis	T H Sweetser	327	1,582	25	10	1	1/1 7/1	3	125

Numerical and other references will be found on page 1215

28 UROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered[8]	Beginning of Service (1950)	Length of Approved Program (Years)	Beginning Stipend (Month)
St Mary's Hospital★	Minneapolis	T H Sweetser	557		9	5	1		3	200
University of Minnesota Hospitals★[1]	Minneapolis	C D Creevy	703	3,167	21	17	3	7/1	3	125
Mayo Foundation	Rochester, Minn	G J Thompson					15	Varies		92 50
Ancker Hospital★[1]	St Paul	F E B Foley	566	1,643	26	19	2	7/1	3	91.50
Charles T Miller Hospital★[1]	St Paul	P F Donahue and F E B Foley	520	718	7	7	1	7/1	3	115
Kansas City General Hospital No 1★	Kansas City, Mo	A L Stockwell	572	2,390	49	23	2	7/1	3	50
Research Hospital★[1]	Kansas City, Mo	R L Hoffman	519	21	8	5	2	7/1	3	100
Barnes Hospital★	St Louis	D K Rose	957	3,966	12	9	1	7/1	3	25
Homer G Phillips Hospital★[1]	St Louis	C Wattenburg	460	3,008	32	5	2	7/1	3	98
Missouri Baptist Hospital★[1]	St Louis	C E Burford	981		22	2	1	7/1	1	70
Missouri Pacific Hospital	St Louis	A Vitt and W F Mellick							2	
St Louis City Hospital★[1]	St Louis	C Wattenberg and W I Mellick	519		78	33	3	7/1	3	
St Mary's Group of Hospitals★[1]	St Louis	C E Burford	725	2,047	22	10	3	7/1	3	35
Atlantic City Hospital★	Atlantic City N J	C H Shivers	349	3,926	6	3	1	7/1	2	50
Bayonne Hospital and Dispensary★	Bayonne N J	A J Balsamo	665	780	2	1	2	7/1	3	
Cooper Hospital★[1]	Camden, N J	D F Bentley, Jr	476	3,985	19	10	2	7/1	2	83 33
Jersey City Hospital★	Jersey City N J	F J Daly	402	1,708	23	5	3	Varies	3	35
Newark City Hospital★[1]	Newark, N J	C O Crowley					1		3	30
Orange Memorial Hospital★[1]	Orange, N J	J K DeVries and W P Burpeau	433	523	24	7	1	7/1	2	100
Albany Hospital★[1]	Albany, N Y	J I Heslin	816	1,211	21	12	2	7/1	3	41 66
Jewish Hospital★[1]	Brooklyn	I Baretz	619	1,855	26	10	1	7/1	2	30
Kings County Hospital★[1]	Brooklyn	F L Senger	1,526	4,147	173	19	3	7/1	3	80
Long Island College Hospital★	Brooklyn	F I Senger	570	2 639	27	10	3	7/1	3	50
Methodist Hospital★[1]	Brooklyn	H I Langworthy, Sr O P Schoenemann	508	1,113	7	3	1	7/1	3	25
Buffalo General Hospital★	Buffalo	O J Oberkircher	626	1,671	23	12	2	7/1	3	25
Edward J Meyer Memorial Hospital★	Buffalo	G E Slotkin	416	1 402	50	26	2	7/1	3	100
Millard Fillmore Hospital★	Buffalo	G F Slotkin	592	32	24	8	2	7/1	3	50
Queens General Hospital★[1]	Jamaica, N Y	B Derrah	824	6 685	92	54	3	7/1	3	
Bellevue Hospital★[1] Div II—Cornell University	New York City								3	
Beth Israel Hospital★[1]	New York City	S F Wilhelm	827	2,188	31	10	3	7/1	3	50
French Hospital★	New York City	J D Cooney	284	1,164	5	1	2	7/1	3	20
Metropolitan Hospital★[1]	New York City	S Carleton	403	2,825	38	13	2	7/1	2	130
Morrisania City Hospital★[1]	New York City	J Duff	741	2,907	39	13	4	7/1	3	80
Mount Sinai Hospital★	New York City	G Oppenheimer	934	4 445	29	10	2	7/1	3	50
New York City Hospital★	New York City	J H Morrissey	373	2,712	24	13	2	7/1	2	80
New York Hospital★[1]	New York City	Dr Marshal	1,006	43 650	24		6	7/1	3	25
New York Polyclinic Medical School and Hospital★	New York City	T S Ritter	480	970	10	2	2	7/1	3	50
Presbyterian Hospital★[1]	New York City	G F Cahill	1,346	10,256	31		6	1/1 7/1	3	41 66
Roosevelt Hospital★[1]	New York City	S A Beisler	544	3,188	9	6	3	7/1	3	25
St Clare's Hospital★	New York City	R W Hunt	214	467	4	1		7/1	3	25
St Luke's Hospital★	New York City	J A Taylor	523	3,562	12	4	2	7/1	3	50
University Hospital★	New York City	R Hotchkiss	540	2,584	10	4	3	7/1	3	80
Strong Memorial Rochester Municipal Hospitals★[1]	Rochester, N Y	W W Scott	744	13,292			3	7/1	3	41 66
Sea View Hospital[1]	Staten Island, N Y	A I Greenberger	782		3	2	2	1/1 7/1	1	130
Charlotte Memorial Hospital★	Charlotte N C	H W McKay	1,128	384	20	12	2	7/1	3	60
Duke Hospital★[1]	Durham N C	F P Alyea	530	4,163	7	5	4	7/1	3	83.33
Watts Hospital★[1]	Durham, N C	W M Coppridge	560	2,161	12	6	1	7/1	2	50
North Carolina Baptist Hospital★[1]	Winston Salem, N C	F K Garvey	869	2,503	9	5	3	7/1	3	41 66
Cincinnati General Hospital★	Cincinnati	P G Smith	566	5,290	42	15			2	
City Hospital★[1]	Cleveland	H Trattner	476	1,676	30	11	2	7/1	3	70
Cleveland Clinic Hospital[1]	Cleveland	C C Higgins	1 349	22,683	17	4	5	7/1	5	135
University Hospitals★[1]	Cleveland	J I Joelson	712	4,235	9		1	7/1	2	25
Ohio State University Hospital★[1]	Columbus, Ohio	W N Taylor	469		36	26	3	7/1	3	50
Huron Road Hospital★[1]	East Cleveland Ohio	V C Laughlin	451		10	5			2	
St Vincent's Hospital★[1]	Toledo Ohio	L P Dolan	832	24	18	9	2	7/1	3	
University Hospitals★	Oklahoma City	B A Hayes	192	2,835	12	4	1	7/1	3	35
Hillcrest Memorial Hospital★[1]	Tulsa, Okla	J Akin	342		8		3	7/1	3	75
St John's Hospital★[1]	Tulsa Okla	H S Browne	800		21	5	1		2	150
St Vincent's Hospital★	Portland Ore	J R Hand	724		12	8	1		2	75
University of Oregon Medical School Hospitals and Clinics★[1]	Portland, Ore	C Hodges	309	2,897	24	18	5	7/1	3	75
Allentown Hospital★	Allentown, Pa	W C Masonheimer	863	165	7	3	1	7/1	2	100
George F Geisinger Memorial Hospital and Clinic★	Danville Pa	W I Buchert	949	8,330	16	5	2	7/1	3	75
St Vincent's Hospital★	Erie, Pa	E Hess	1,182	4,342	29	23	4	7/1	3	50
Harrisburg Hospital★[1]	Harrisburg, Pa	S L Grossman	534	3,288	23	8	1	7/1	2	100
Episcopal Hospital★[1]	Philadelphia	G D Shoup	291	680	7	5	2	7/1	2	50
Graduate Hospital of the University of Pennsylvania★	Philadelphia	J O Birdsall	132	3,057	6	3	1	7/1	2	
Hahnemann Hospital★[1]	Philadelphia	F W Campbell	881	2,311	12	5	3	9/1	3	50
Hospital of the University of Pennsylvania★[1]	Philadelphia	B P Hughes	896	3,188			3	Varies	3	100
Jefferson Medical College Hospital★	Philadelphia	D M Davis	1,080	5,136	25	10	3		3	
Jewish Hospital★[1]	Philadelphia						1	7/1	1	50
Lankenau Hospital★[1]	Philadelphia	C A W Uhle	320	861	10	5	1	7/1	2	50
Mount Sinai Hospital★[1]	Philadelphia	M Muschat and I J Oarp	387	318	12	10	1	7/1	2	50

Numerical and other references will be found on page 1215

28 UROLOGY—Continued

Name of Hospital	Location	Chief of Service	Inpatients Treated	Outpatient Visits	Deaths	Autopsies	Asst Res and Residencies Offered	Beginning of Service (1950)	Length of Approved Program (years)	Beginning Stipend (Month)
Pennsylvania Hospital*	Philadelphia	L Herman	[illegible]	2 333	9	5	2		3	20
Philadelphia General Hospital*¹	Philadelphia	L McCrea	622	5 020	61	35	4	7/1	3	75
Presbyterian Hospital*¹³	Philadelphia	F G Harrison	407	4 719	17	13	1	7/1	3	
Temple University Hospital*¹	Philadelphia	K B Conger	480	1,548	24	18	2		3	
Allegheny General Hospital*	Pittsburgh	J O Burt	393	355	12	2	1	7/15	3	100
Mercy Hospital*¹	Pittsburgh	E J McCague	522	448	6	2	2	7/1	3	100
Pittsburgh Medical Center*¹ ⁶⁹	Pittsburgh	J J Lee	485	1 087	9	4	3	7/1	3	41 67
Robert Packer Hospital*	Sayre Pa	W Baurys	473	1 097	19	13	1	7/1	3	150
Pittsburgh Medical Center*¹ ⁶⁹	Wilkes Barre Pa	P P Mayock	308	1 779	9	5	1	7/1	1	75
Rhode Island Hospital*	Providence R I								2	
Roper Hospital*¹	Charleston S C	I J Ravenel	658	1 701	6	3	2	7/1	3	50
Tri County Hospital*	Orangeburg S C	L P Thackston	1,290	7 650	14	12	2	7/1	8	100
Baptist Memorial Hospital*	Memphis Tenn	J L Morgan	1 329	520	8	11	1	7/1	1	75
John Gaston Hospital*	Memphis Tenn	T D Moore	723	4 914	31	18	6	7/1	3	
St Joseph Hospital*¹	Memphis Tenn	C D Allen	694		19	7	3	7/1	3	100
Nashville General Hospital*	Nashville Tenn	H C Gayden	417	1 979	17	5			2	
Parkland Hospital*¹	Dallas Texas	K B King	425	3 631	11	8	2	7/1	3	50
University of Texas Medical Branch Hospitals John Sealy Hospital*¹	Galveston Texas	R. E Cone	600	5 403	13	7	3		3	75
Hermann Hospital*¹	Houston Texas	C M Crigler	799	1 416	11	7	4		3	50
Jefferson Davis Hospital*	Houston Texas	M E DeBakey	512	3 786	41	14	2	7/1	3	50
Wichita Falls Clinic Hospital*	Wichita Falls Texas	J R Reagan	566	8,511	1	1	1		3	300
Mary Fletcher Hospital* ⁰	Burlington Vt	W M Flagg	441	11	6	6	3	7/1	3	50
University of Virginia Hospital*	Charlottesville Va	S A. Vest	705	3 102	10	6	4		3	25
Medical College of Virginia Hospital Division*	Richmond Va	A. I. Dodson	601	2,558	31	11	3		3	
St. Mary s Hospital*	Huntington W Va	O A. Hoffman	812		22	4	1	7/1	3	100
La Crosse Lutheran Hospital*¹	La Crosse Wis	A Gundersen	405		8	7	1	7/1	1	150
Madison General Hospital*	Madison Wis	I R Sisk	767		13	7	1		2	75
State of Wisconsin General Hospital*	Madison Wis	I Sisk	539		12	9	3	1/1 7/1	3	25
Milwaukee County Hospital*¹	Milwaukee	J C Sargent	955	3 167	68	22	3	7/1	2	175.58

Numerical and Other References

a Salary established by government pay tables
* Indicates hospitals approved for training interns
† Indicates temporary approval
§ Service includes training in Ophthalmology
1. Residencies open to women
2. Approved for training in Syphilology only
3 Includes one year fellowship in Immundo Hematology
4 May include one year in the Department of Metabolic and Endocrine Diseases
5 May include six months assignment to Department of Rehabilitation and Physical Medicine approved program
6 Clinical data included in Psychiatry
7 Clinical data included in Neurology
8 Includes Fellowships
9 Apply Office of Graduate Medical Education University of Colorado Medical Center
10 Apply Medical College State of South Carolina.
11 Clinical data included in Otolaryngology
12 Affiliated with Bingham Associates Laboratory Holyoke Mass
13 Includes assignment at Urologic Clinic Philadelphia

The following hospitals offer acceptable training which is integrated with or contributing to the fully approved program in the listing of which the footnote reference appears

14 Brooke General Hospital 4th Army Medical Laboratory and Medical Field Service School.
15 Walter Reed General Hospital and Army Medical Department Research and Graduate School.
16 Veterans Administration Hospital Newington Conn
17 Shriners Hospital for Crippled Children Salt Lake City
18 Lakeville State Sanatorium Middleboro New England Peabody Home Newton Center Boston City Hospital Boston
19 North Carolina Orthopedic Hospital Gastonia and Georgia Warm Springs Foundation Warm Springs
20 Bishop DeGoesbriand Hospital Burlington Vt.
21 Louisville General Hospital and Louisville Childrens Hospital.
22 Emory University Hospitals and Clinics
23 Genesee Hospital Rochester N Y
24 Norton Infirmary and Veterans Administration Hospital Louisville General Hospital Louisville Ky
25 Sea View Hospital and St. Vincent s Hospital Staten Island N Y
26 New York Orthopaedic Dispensary and Hospital
27 Good Samaritan and St Vincent s Hospital Portland Ore
28 Lakeville State Sanatorium Middleboro Mass
29 Free Hospital for Women Brookline Mass
30 Stanford University Hospital and University of California Hospital San Francisco
31 Georgetown University Hospital and George Washington Hospital Washington D C
32 Institute of Ophthalmology
33 Veterans Administration Hospital Fort Logan Colo
34 Betty Bacharach Home Longport N J
35 Harlem Hospital New York City
36 Holy Ghost Hospital Cambridge Mass and Jewish Memorial Hospital Roxbury Mass
37 Permanente Foundation Hospital and Stanford Convalescent Home.
38 St Francis Hospital
39 Veterans Administration Hospital Aspinwall Pa
40 Bryan Memorial Hospital Lincoln Neb
41 South Bend Medical Foundation South Bend Ind
42 Children s Hospital Louisville Ky
43 Affiliated with University of Louisville School of Medicine includes services at the U S P H Hospital Lexington Ky the Mental Hygiene Clinic Louisville Ky and the Norton Memorial Infirmary Louisville Ky
44 Cowell Memorial Hospital Berkeley Calif
45 Mary Hitchcock Memorial Hospital Hanover N H
46 Children s Orthopedic Hospital Seattle Washington.
47 Arlington Hospital Arlington Va
48 Institute of Pennsylvania Hospital Philadelphia
49 Babies Hospital New York City
50 Longview State Hospital Cincinnati Ohio
51 Nebraska Methodist Hospital Omaha
52 Children s Hospital of Philadelphia
53 Roseland Community Hospital Chicago
54 St Agnes Hospital White Plains N Y
55 St Christopher's Hospital Temple University Hospital and Philadelphia Hospital for Contagious Diseases
56 Alexandria Hospital Alexandria Va.
57 Children s Hospital of Philadelphia
58 Milwaukee Hospital and Martha Washington Home Milwaukee
59 Minneapolis General Hospital and Veterans Administration Hospital Minneapolis and Veterans Administration Hospital St. Cloud Minn
60 City County Hospital Dallas
61 Neurological Institute New York City
62 House of Good Samaritan Boston Mass
63 Minneapolis General Hospital and Veterans Administration Hospital Minneapolis
64 Sloan Hospital for Women New York City
65 Coney Island Hospital Brooklyn New York
66 St Francis Hospital Columbus Ohio
67 St Vincent s Infant and Maternity Hospital Chicago
68 Dr W H Groves Latter Day Saints Hospital Holy Cross Hospital St Mark s Hospital Salt Lake County General Hospital Veterans Administration Hospital Salt Lake City
69 Presbyterian Hospital Woman s Hospital Eye and Ear Hospital Elizabeth Steele Magee Hospital Children s Hospital and Western Psychiatric Institute and Clinic Pittsburgh.

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SATURDAY, APRIL 15, 1950

ANNUAL REPORT ON INTERNSHIPS AND RESIDENCIES

In this issue the Council on Medical Education and Hospitals presents its twenty-fourth Annual Report on Internships and Residencies The first list of hospitals, approved by the Council on Medical Education and Hospitals for intern training, was published in The Journal in 1914 In early Hospital Numbers of The Journal, general hospitals were listed which offered approved training, and a separate section was devoted to "hospitals for the insane" and "other special hospitals" The latter two groups of hospitals offered approved training in special fields The original list included 508 approved hospitals which offered positions for 2,667 interns

The first formal report of the Council on Internships and Residencies was presented in the Hospital Number of The Journal in 1927 In the same issue, for the first time, a separate section was devoted to approved residencies in the specialties, which, for several years thereafter, were referred to as "higher internships" There were 270 hospitals included in the first list, with 1,699 residencies offered in various specialties, including anesthesia, dermatology, obstetrics-gynecology, medicine, neuropsychiatry, ophthalmology, otolaryngology, pathology, pediatrics, radiology, surgery, tuberculosis, urology and general practice It is of interest that the Council has again set up standards for residencies in general practice, an initial list of hospitals approved in this category appearing in this issue

The Council's Annual Report and lists of approved hospitals was published each year in the Hospital Number of The Journal, through 1948 In May of that year the Internship and Residency Number appeared as a special issue It purports to furnish current data regarding hospitals conducting training programs for the guidance of physicians seeking appointments for internships or residencies

The 1950 report shows there are now 799 hospitals approved by the Council to conduct intern training They offer a total of 9,398 internships, an increase of 274 over the number available last year The report points out that there is a trend toward an increased demand for intern service in those hospitals which are approved and cites the disproportionate increase in the number of positions available this year as compared with the total number of hospitals approved For the first time the Council includes Veterans Administration hospitals in the list of federal services conducting approved intern training While these hospitals have greatly expanded their residency training programs during the past several years, not until the past year did they also offer internships

Residencies in general surgery this year are listed under two categories those approved by the Council in concurrence with the American Board of Surgery and a second group, approved by the Council as offering satisfactory training in preparation for residencies in the surgical specialties

The Council has announced in a statement prefacing the list of residencies in radiology that a survey of hospitals approved in this specialty has recently been completed by the American Board of Radiology collaborating with the Council A complete list of approved programs in radiology based on the findings of this survey will appear in the Educational Number of The Journal, scheduled for publication September 9 Pending the publication of this revised list, hospitals are being notified that their present approval will remain in effect until July 1, 1951

The statistical data in this report are made available through the cooperation of the hospitals included in the approved lists For their contribution to the report, and for the assistance furnished by the federal services and the medical schools, as well as for the collaboration of the American Boards in evaluating residency training in these hospitals, the Council makes grateful acknowledgment

APPROVED PROGRAMS IN SURGERY

In the list of Approved Residencies and Fellowships appearing in this issue, hospitals conducting approved training in general surgery are classified under two separate categories those approved by the Council on Medical Education and Hospitals and the American Board of Surgery and a second group, approved by the Council as offering training in general surgery acceptable in preparation for residencies in the surgical specialties

This dual listing of residencies in surgery has resulted from the announcement by the American Board of Surgery last June that after July 1, 1950 it would not accept training in hospitals offering residencies of less than three years' duration, unless the program was affiliated with or formed an integral part of a graded, fully approved residency[1] In accordance with this announcement, residents qualifying for examination by the American Board of Surgery will be required to complete their training in a single hospital or group of hospitals whose programs have been integrated to assure the resident progressively graded training An essential consideration in extending approval for three or four years of training in this specialty has been the degree of responsibility afforded the resident for the care and management of patients, including the opportunity for performing major surgical procedures It is felt that the resident, particularly in the later stages of his training, should assume primary responsibility for operative work, as well as assist qualified surgeons in the performance of operations requiring a high degree of surgical skill and judgment. In the present listing, 451 hospitals have qualified for approval in this category

There is, however, an appreciable number of hospitals throughout the country offering training in general surgery whose programs for one reason or another do not meet the requirements for approval at the three or four year level Many of these hospitals have not found it practicable to develop a fully organized three or four year training plan In some the amount and diversity of clinical material available for teaching precludes their being fully approved In others the assumption by the resident of primary responsibility for major surgical procedures is not feasible Within the limitations mentioned, these hospitals offer supervised experience in general surgery which has a place in the training of residents, particularly those qualifying for examination by the surgical specialty boards Six American boards require one or two years of training in general surgery as a prerequisite to, or as a part of, residency training in their respective fields In these instances the degree of responsibility given the resident during his training in general surgery is not of primary importance It is assumed that, during the course of his residency in the specialty itself, the resident will be given adequate opportunity to develop his surgical skill and judgment A comprehensive orientation to the field of general surgery, including diagnosis, the principles of preoperative and postoperative care and applied instruction in the basic sciences, is of paramount importance

On this basis, the Council has approved 149 hospitals as offering satisfactory training in general surgery in preparation for residencies in the surgical specialties It is estimated that about 600 residents will require training of this type annually The Council is confident that hospitals approved in this category will provide these physicians with training which will give them a sound background for subsequent residencies in their chosen fields

ROCKY MOUNTAIN SPOTTED FEVER

The chief vectors for the transmission to man of Rocky Mountain spotted fever are the wood tick and the American dog tick The former is found throughout the Rocky Mountain region and adjacent areas and the latter on the great plains and eastward to the Atlantic coast, to the South reaching into Mexico, and in Canada, eastward from southern Manitoba to Labrador The wood tick becomes active during the spring and early summer The dog tick appears in late spring and remains active longer during the summer In a recent study, Harrell[1] points out that ticks hang from the lower branches of small bushes and shrubs, waving their legs, and thus transfer easily to the hair of passing warm-blooded animals

Rocky Mountain spotted fever is a severe rickettsial disease, which occurs when a human being is bitten by an infected tick The rickettsias are found in the blood early in the disease, but they are difficult to culture as they grow only in the presence of living cells The important endemic foci in the United States are Wyoming, Montana, Colorado and the Southern Atlantic states (Virginia, Maryland and North Carolina) In the West the majority of cases appear between April and June, and in the East, during July and August Throughout the United States more cases occur during July than in any other month In the East, the vector is the common dog tick Many cases occur in persons seeking recreation and on vacation in rural or suburban areas Protection against infection lies in preventing the attachment of a tick to the skin High boots, leggings or socks worn outside the trousers hinder the tick from attaching itself to the leg, but, if there are no openings there in the clothing, the tick will crawl up and attach itself on the neck In tick-infested country one should pass the hand frequently over the back of the neck and behind the ears to remove ticks that may not be as yet attached to the skin After becoming attached ticks seldom transfer the infection until they have fed on the victim for several hours Therefore, inspection of the body and clothing twice daily when in infested country is usually sufficient A tick attached to the skin should be removed immediately as gently as possible to prevent squeezing the feces out of the insect and on the skin If the tick is pulled off with the finger, it should be handled with a small piece of paper and the abrasion gently touched with a disinfectant, such as iodine or a mercurial antiseptic, or gently washed with soap and water

There are vaccines which have definite protective value for a period of less than a year Before the vaccine is injected under the skin or into the muscle in allergic persons, an intradermal test should be made to determine sensitivity to the vaccine Tourists who go to endemic areas and persons who live in areas where the strain of Rickettsia is highly virulent should be vaccinated

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[1] J A M A **141** 86 (Sept 3) 1949

[1] Harrell G T Rocky Mountain Spotted Fever Medicine **28**: 333 (Dec.) 1949

No test is available which will quickly establish a diagnosis early in the course of the disease The agglutination test, the most widely used confirmatory diagnostic procedure, does not differentiate the various rickettsial infections The complement fixation test is specific for the spotted fever strain of rickettsias, but it is technically difficult and the results are dependable only in experienced hands

The mortality of Rocky Mountain spotted fever throughout the United States averaged 23 per cent in 4,033 cases reported during the period 1939-1946 Fortunately, two of the newer *antibiotics, aureomycin* and chloramphenicol, give promise of being effective in the treatment of Rocky Mountain spotted fever

Rickettsial diseases of man related to spotted fever and transmitted by ticks occur throughout the world A disease called São Paulo typhus in South America apparently is identical with Rocky Mountain spotted fever of North America Kenya fever in Africa apparently is related to Rocky Mountain spotted fever Marseille fever and escarro-nodulaire in Mediterranean countries differ only in that in these a primary site of inoculation is evidenced by an ulcer In other parts of the world, Russia, India and North Queensland, tick-borne rickettsioses are often called tick typhus All these strains of rickettsias appear to be immunologically related Wilder[2] recently reviewed the work of Howard Ricketts and his associates, who made fundamental contributions to the knowledge of the rickettsial diseases

READING DISABILITIES IN CHILDREN

There is a group of children, estimated by Monroe to amount to about 12 per cent of all children in the United States, who fail to learn to read as well as the average of their class These children have normal or better than normal intelligence and normal social and vocabulary development Most of these children have normal vision Occasionally one encounters dyslexia associated with left handedness, particularly when attempts had been made to convert left handedness to right handedness The disability manifests itself in a variety of ways, such as confusion of one consonant with another, as *b* for *d, p* for *q* and *t* for *f*, or a reversal of syllables, words or entire sentences, as in mirror writing, or complete failure to recognize a word Criticism by the teacher and parents makes the child lose confidence in his ability to do school work and leads to the development of various emotional problems, with psychologic blocks which further aggravate the condition

The etiology of the developmental *dyslexia* is not clearly understood It is doubtful that there is in these children any underlying organic lesion, such as the agenesis of the dominant angular gyrus The absence of any other evidence of intracranial damage speaks against this hypothesis Emotional factors such as fear, anxiety, rivalry, jealousy, hostility for the parent or the teacher and a feeling of inferiority undoubtedly play an important role in creating these difficulties It is significant that many of the complexes associated with the reading disability disappear with improvement in reading

Crisp[1] and Rychener[2] believe with Orton that the new method of teaching reading, the so-called "flash" method, is an important contributory factor in the creation of these disabilities The "flash" method employs whole words on cards with pictorial representation to develop pure visual associations The method was expanded into a phrase and later into a sentence method The child on entering school immediately learns to read whole sentences The analysis of the sentence into individual words and the analysis of individual words into phonic sounds are taught secondarily, when the child already has an extensive reading vocabulary based on visual memory rather than on synthesis of words Berner and Berner[3] point out that, while this method produces rapid and intelligent readers, it tests to the limit the child's power of attention and concentration These authors feel that certain minor difficulties such as low hypermetropia and deficient fusion, which were of minor importance under the older methods of teaching, have now become significant

Crisp, Rychener and Orton believe that a small percentage of children need phonetic training According to Orton among children who had been taught by the "flash" method there were three times as many cases of reading difficulties as among those who had been taught by the phonetic method Crisp feels that emphasis on speed rather than on accuracy in the development of a new skill, such as reading, must increase the subconscious sense of defeat and conflict in a child's mind, to be followed by failure in further efforts

The important elements in the treatment of these disabilities are their earliest recognition and sympathetic handling of the problem Training in phonetics, remedial reading and the employment of every means to restore the child's confidence in his ability to read make for favorable prognosis The advantages of the older, the phonetic method, as contrasted with the new, the "flash" method, particularly as related to developmental dyslexia, is a problem to be solved by the cooperation of the ophthalmologist and the pedagog

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[2] Wilder, R M The Rickettsial Diseases Discovery and Conquest, Arch Path **49** 479 (April) 1950

[1] Crisp, W H The Psychology of the Poor Reader, Am J Ophth **33** 235 (Feb) 1950

[2] Rychener, R O, and Robinson J Reading Disabilities and the Ophthalmologist, Tr Am Acad Ophth **53** 107 (Nov Dec) 1948

[3] Berner, G E, and Berner, D E Reading Difficulties in Children Arch Ophth **20** 829 (Nov) 1938

The complexity of the problem of dyslexia, involving endocrine imbalances, dietetic errors, occasionally ocular difficulties and psychologic problems, such as the emotional reaction of the child toward the teacher and the parent, makes it evident that supplementary tutoring by a parent or teacher will seldom accomplish the goal Dyslexia in all its phases is best treated in special institutions staffed by specialists in various fields and devoted to the study and treatment of the various reading disabilities The Reading Difficulty Center of Columbus, Ohio, the Memphis Orthoptic Center or the Dyslexia Memorial Institute in Chicago[4] are some of the institutions engaged in this work

Current Comment

RESIDENCIES IN GENERAL PRACTICE

In December 1948, the Council adopted standards for approval of residencies in general practice Hospitals which were approved under the general residency classification were advised that they would be expected to organize their training program in accordance with the new requirements if they wished to retain their approved status In this issue the Council lists 32 hospitals which have developed acceptable programs based on the requirements outlined in the Essentials of Approved Residencies and Fellowships A number of these residencies are offered in teaching hospitals under the aegis of a medical school That these schools have taken the leadership in sponsoring programs in general practice at the graduate training level is most encouraging A hospital requesting approval for residency training in general practice must meet the same general requirements as does a hospital offering residency training in a specialty These residencies provide for supervised training in the major clinical divisions of internal medicine, surgery, obstetrics-gynecology and pediatrics and in the special services of anesthesiology, radiology and pathology The programs which have been approved, while varying in the scope and extent of the training provided, are designed specificially to meet the needs of the young physician intending to enter general practice Several of these hospitals have already notified the Council that they have had many more applications for the positions available than they have been able to accept While complete statistics are not available, it seems probable that a greater proportion of medical school graduates are planning to enter general practice than has been true for the past several years It is felt that this trend will be stimulated by the development of residencies of the type and quality of those presently approved On completing residencies of this nature, the young doctor can begin his practice with the assurance that he has had advanced training comparable to that of his colleagues who finish residencies in the specialties

APPROVED RESIDENCIES

The number of residencies approved by the Council on Medical Education and Hospitals, as reported in this issue, has risen to a total of 18,669, an increase of 8 per cent over the number approved last year Significant increases in the number of residencies offered were reported in the following divisions anesthesiology, internal medicine, neurologic surgery, neurology, obstetrics-gynecology, pediatrics, psychiatry and radiology It is evident that a point has been reached in the residency field where the number of positions available in approved hospitals will exceed appreciably the number of potential applicants The greatly increased demand for residency training which existed in the postwar period has been largely met In the next few years candidates for appointment to residency positions will be drawn primarily from interns completing their service It is apparent that there will not be a sufficient number of interns available to fill all positions offered Further, an increasing proportion of medical school graduates have indicated their interest in general practice rather than in training and, later, practice in a specialty Hospitals which have organized their house staff on the basis of an expanding residency program may well consider, at this time, the fact that a reduction in the number of residency applicants can be anticipated The Council's report points out that there were 1,179 positions in approved residency programs reported vacant last year With a decrease in the number of physicians seeking residency training probable, the problem of meeting the hospitals' demand for residents will require careful consideration

NEW REMEDIES FOR RHEUMATOID ARTHRITIS

Rapid and dramatic remission of signs and symptoms of rheumatoid arthritis by cortisone and the adrenocorticotropic hormone, ACTH, has given the medical profession a new standard of comparison for evaluation of therapeutic agents in this disease Because of the scarcity of these hormones, it was inevitable that certain substitutes should be advocated as "nearly as good" Thus, recent months have seen claims advanced for pregnenolone, epinephrine, combinations of testosterone, estrogen and pregnenolone, and desoxycorticosterone acetate with ascorbic acid Many of these claims have been attended by flurries of favorable publicity in the lay press, which resulted in considerable pressure from the public for the use of these products by practicing physicians This situation is unfortunate, for none of these products has produced results comparable with those obtained with cortisone and the adrenocorticotropic hormone Some of the newer remedies and technics offer interesting possibilities for further study, but none is beyond the stage of experimental investigation Until additional convincing data are forthcoming, the medical profession must advise its patients that the remedies recently proposed for arthritis cannot be placed in general use In fact, some of the proposals eventually may be proved unsatisfactory for even restricted use

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[4] Schmieding A How Dyslexia Memorial Institute Helps the Non Reader Exceptional Children 13 36 (Nov) 1946 MacMillan D P Dyslexia (Reading Difficulty) Library J 71: 890 (June 15) 1946

ORGANIZATION SECTION

Official Notes

PARTICIPATION IN THE PROGRAM OF THE DENVER CLINICAL SESSION

Fellows of the American Medical Association desiring to offer papers or clinical presentations for the program of the Fourth Annual Clinical Session of the Association, to be held Nov 28 to Dec 1, 1950 in Denver, should make application before May 15 Their applications should be addressed to Dr Samuel P Newman, Chairman, Committee on Arrangements, 835 Republic Building, Denver 2, Colo

The Council on Scientific Assembly of the American Medical Association has requested that all such applications be sent directly to the local committee Applications may be in the form of a letter but should include full name and address of the applicant, the title of the paper and a 100 to 200 word summary of the proposed presentation

Washington Letter

(From a Regular Correspondent)

April 10, 1950

House Debating Vital Health and Hospital Issues

Floor debate in the House of Representatives on the $29 billion federal budget for 1950-1951, interrupted by the Easter recess and due to be resumed April 18, is producing a voluminous presentation on the government's huge medical establishment Medical and hospital care of veterans, operation of Army and Navy hospitals, federal support of privately conducted medical research and administration of the Hill-Burton Hospital Construction Act are among the major problems figuring prominently in the debate

Scarcely had the House begun consideration of the appropriations bill on April 3 than Representatives Frank Keefe (Wisconsin), Edith Nourse Rogers (Massachusetts) and E P Scrivner (Kansas), all Republicans, made separate speeches emphasizing that the current retrenchment of Veterans Administration medical services cannot be attributed to withholding of adequate funds by Congress

On the following day, Representative Keefe, who is acknowledged to be the best informed member of Congress on activities of the U S Public Health Service, spoke for nearly two hours in favor of increased appropriations for support of research and expansion of hospital construction with federal aid

"There is a demand in certain parts of the country and in some quarters for the establishment of some sort of system of public health insurance," he said, "and it is directly associated with and made attractive to the public through the promise that, if such a program is established, it will be able more effectively to bring to all the people the benefits of advanced scientific knowledge and improved hospital and medical service

"It is this natural allurement that is being overplayed, in my judgment, by those who advocate compulsory national health insurance I think we can agree that the ultimate objective of any program, compulsory or voluntary, is to achieve a wider distribution of hospital and medical services and to bring to a greater number of our people the prospects of better health In considering this ultimate objective, I have long felt that we should not merely denounce the proposal of Mr Oscar Ewing and those associated with him, those who clamor for compulsory national health insurance, without being able to suggest a solution for an admitted problem by tendering a better program more in keeping with the American system of liberty and freedom and free from the withering and destructive influence of bureaucratic or socialistic control

"To suggest an alternative proposal it is not necessary to present a detailed and utterly new concept of medicine and hospital care In my judgment, the answer to the Ewing proposal is to be found in the over-all progress that is being made in the hospital construction program, in the expanded research program, in the development of state and local public health services, in sanitation, in pollution control development, in aids to develop better medical schools, clinics, laboratories and facilities, in the development of more and better doctors and researchers and in the constant education of the public so that they will avail themselves of these facilities before it is too late"

With that as his theme, Representative Keefe pleaded with the House to overrule the appropriations committee's recommendation that federal funds under the Hill-Burton law for hospital expansion be cut 50 per cent, to $75 million, urged allocation of $4 million to aid hospitals, clinics and schools wishing to improve physical facilities for research in cardiovascular diseases and made similar appeals in behalf of government support of cancer and mental health research

When the House adjourned April 6 for its 12 day holiday vacation, all signs were that, when debate on the appropriations bill is resumed, several amendments will be offered to restore reductions in the Public Health Service budget which were made by the appropriations committee. Likewise, it is probable other amendments will be introduced to increase funds for the medical services of Army, Navy and Veterans Administration

Military Hospital Inquiry Expected to be Continued

One week after its return to Washington after a 12 day inspection tour of Army and Navy hospitals, a special House subcommittee was scheduled to leave again April 3 to visit the Army's Murphy (Boston) and Valley Forge (Phoenixville, Pa) general hospitals in connection with its study of a Department of Defense order abolishing these and three other large military hospitals It was considered likely that the subcommittee, headed by Representative L Mendel Rivers (Democrat, South Carolina), will resume public hearings on the cutback order soon after termination on April 18 of the Easter recess which is being taken by the House

Medical Legislation

STATE LEGISLATION

Kentucky

Bill Introduced—S Res 63 proposes to direct the board of trustees of the University of Kentucky to make a careful and impartial study of possible steps to alleviate the existing **shortage of practicing physicians** in rural areas of the state with particular reference to the possibility of providing facilities for the education and training of additional Kentuckians for the profession of medicine

Bills Enacted—H 237 was approved March 10, 1950 It makes it unlawful for any employer to require any employee or applicant for employment to pay the **cost of a medical examination** or the cost of furnishing any records required by the employer as a condition of employment H 262 was approved March 25, 1950 It makes it unlawful for any person to possess, manufacture, sell dispense, prescribe or administer **any barbiturate** except from a licensed pharmacist on prescription of a practitioner A practitioner is defined to mean a person licensed under the professional licensing laws of the state to prescribe and administer medicines H 443 was approved March 23 1950 It amends the law relating to the organization of **medical service plans** by providing for the organization of hospital service plans also S 123 was approved March 25, 1950 It amends the law relating to divorce by making permanent and incurable **insanity a ground for divorce** in Kentucky S 236 was approved March 22 1950 It amends the **workmen's compensation act** by providing among other things, that, if an employer fails to furnish medical surgical and hospital treatment reasonably required, he shall be liable for the reasonable expense, within certain limits, incurred by or on behalf of the employee in providing such treatments and it also authorizes an employee to call in any available physician or surgeon in an emergency

Maryland

Bill Enacted—H 45 has become chapter 82 of the Laws of 1950 It makes it unlawful for any person, firm or corporation to sell or offer for sale any **contraceptive device** by means of a vending machine or other automatic device whether or not such contraceptive is advertised as such or as a prophylactic

Massachusetts

Bills Introduced—H 2325 proposes a continuation of a special commission making an investigation and study relative to the admission or **commitment of persons to institutions** under the jurisdiction of the department of mental health H 2341 to amend the workmen s compensation act proposes to permit the payment of **reasonable fees to physicians** who appear and testify in behalf of an insurer S 525 proposes that no settlements or releases signed by **persons confined in a hospital** shall be admissible in evidence or used or referred to in any manner at the trial of any action to recover damages for personal injuries unless at least five days prior to the obtaining or procuring of such general release or statement the injured party had signified in writing his willingness that such general release or statement be given

New Jersey

Bills Introduced—S C Res 7 proposes the creation of a commission to study the advisability of extending the **office of chief medical examiner** to all counties and the assumption of the powers and duties of coroners particularly in respect to sudden violent and casual deaths by such chief medical examiners S J Res 8 proposes the creation of a commission to make a thorough and exhaustive research and study of the problem of the apprehension confinement care and treatment of the **chronic misdemeanant alcoholic and drug addict** with special attention to the matter of prevention.

Bill Enacted—S J Res 3 has become Joint Resolution Chapter 2 of the Laws of 1950 It designates the month of April as **Cancer Control Month**

New York

Bill Enacted—A 151 has become chapter 185 of the Laws of 1950 It provides that the **commissioner of mental hygiene** when an emergency exists by reason of a lack of a sufficient number of physicians in any institution may present evidence thereof to the civil service commission which after due inquiry may determine the existence of an emergency and waive the requirements of the civil service law as to the citizenship of applicants in competitive examinations for the position of senior psychiatrist or supervising psychiatrist in such institution until the emergency has ceased to exist.

Rhode Island

Bill Introduced—S 265 proposes to amend the **law relating to medical examiners** by among other things increasing the salary of the medical examiner and county medical examiners providing for compensation for travel expense of such officials and making the appointment of county medical examiners mandatory rather than permissive

Texas

Bill Enacted—S 24 X was approved March 13 1950 It provides for the creation of a **state board of tuberculosis nurse examiners** to license and examine applicants desiring to receive certificates as tuberculosis nurses

Coming Medical Meetings

Aero Medical Association Chicago, May 29 31 Dr Thomas H Sutherland 214 S State St. Marion Ohio Secretary

Alabama Medical Association of the State of Birmingham April 20 22 Dr Douglas L. Cannon 519 Dexter Ave. Montgomery Secretary

American Association for Thoracic Surgery Denver Colo April 15 19 Dr Brian Blades 901 Twenty Third St. N W Washington, D C Secretary

American Association of Industrial Physicians and Surgeons Chicago Hotel Sherman April 24 28 Dr Frederick W Slobe 28 E. Jackson Blvd Chicago 4 Secretary

American Association of Genito-Urinary Surgeons Hershey Penn Hotel Hershey May 24 26 Dr Norris J Heckel 122 S Michigan Ave Chicago 3 Secretary

American Association of the History of Medicine Boston May 21 23 Dr Benjamin Spector 416 Huntington Ave Boston 15 Secretary

American Association on Mental Deficiency Columbus Ohio Hotel Deshler Wallick, May 16-20 Dr Neil A. Dayton P O Box 96 Willimantic Conn Secretary

American Broncho-Esophagological Association San Francisco Mark Hopkins Hotel May 25 26 Dr Edwin N Broyles 1100 N Charles St Baltimore 1 Secretary

American College of Physicians, Boston, April 17 21 Dr George Morris Piersol 4200 Pine St. Philadelphia Secretary General

American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14 19 Dr F Bayard Carter Duke Medical School, Durham, N C Secretary

American Gastro-Enterological Association Atlantic City April 28-29 Dr Dwight L. Wilbur 655 Sutter St. San Francisco Secretary

American Gastroscopic Society Atlantic City, April 28-29 Dr H Marvin Pollard University Hospital, Ann Arbor Mich Secretary

American Geriatrics Society New York Hotel Commodore, June 1 3 Dr Malford W Thewlis 25 Mechanic St. Wakefield R. I., Secretary

American Gynecological Society White Sulphur Springs, W Va The Greenbrier May 11 13 Dr Norman F Miller 1313 E. Ann St. Ann Arbor Mich Secretary

American Laryngological Association San Francisco May 23 24 Dr Louis H Clerf 128 S Tenth St. Philadelphia 7 Secretary

American Laryngological Rhinological and Otological Society San Francisco May 25 27 Dr C Stewart Nash, 277 Alexander St. Rochester 7 N Y Secretary

American Ophthalmological Society Hot Springs, Va. The Homestead May 31 June 2 Dr Maynard C Wheeler 30 W 59th St. New York 19 Secretary

American Orthopedic Association, Virginia Beach Va May 23 26 Dr C Leslie Mitchell Henry Ford Hospital Detroit 2 Secretary

American Otological Society San Francisco May 21 22 Dr Gordon D Hoople 1100 E Genesee St Syracuse 10 N Y Secretary

American Pediatric Society French Lick Ind May 8-10 Dr Henry G Poncher 1819 W Polk St. Chicago 12 Secretary

American Physiological Society Atlantic City April 17 21 Dr Milton O Lee 2101 Constitution Ave. Washington 25 D C Executive Secretary

American Psychiatric Association Detroit May 1 5 Dr Leo H Bartemeier General Motors Bldg Detroit 2 Secretary

American Psychoanalytic Association Detroit Hotel Statler April 28-30 Dr LeRoy M. A. Maeder 1910 Rittenhouse Square, Philadelphia 3 Secretary

American Psychosomatic Society Atlantic City Chalfonte Haddon Hall April 29 Dr Sydney G Margolin 714 Madison Ave New York 21 Secretary

American Radium Society New York Roosevelt Hotel May 25 26 Dr Hugh F Hare 605 Commonwealth Ave. Boston 15 Secretary

American Society for Clinical Investigation Atlantic City May 1 Dr Paul B Beeson Grady Hospital Atlanta 3 Ga. Secretary

American Society for Pharmacology and Experimental Therapeutics Atlantic City April 17 21 Dr Harvey B Haag Medical College of Virginia Richmond 19 Secretary

American Surgical Association Colorado Springs Colo. April 19 23 Dr Nathan Womack University Hospitals Iowa City Iowa Secretary

American Urological Association Washington D C Hotel Statler May 29 June 1 Dr Charles H deT Shivers Boardwalk National Arcade Bldg Atlantic City N J Secretary

Arizona State Medical Association Phoenix Hotel Westward Ho April 30-May 4 Dr Frank J Milloy 234 N Central Ave. Phoenix, Secretary

Arkansas Medical Society Fort Smith April 17 19 Dr William R. Brooksher 602 Garrison Ave Fort Smith Secretary

Association for Physical and Mental Rehabilitation Memphis Tenn Hotel Peabody May 23 27 Mr Benjamin Forman 57 Granger St. Canandaigua N Y Secretary

Association of American Physicians Atlantic City May 2 3 Dr Henry M Thomas Jr 1201 N Calvert St. Baltimore 2 Secretary

California Medical Association San Diego April 30-May 3 Dr L. Henry Garland 450 Sutter St. San Francisco Secretary

Connecticut State Medical Society Waterbury May 2-4 Dr Creighton Barker 160 St. Ronan St New Haven Secretary

Federation of American Societies for Experimental Biology Atlantic City April 17 21 Dr Milton O Lee 2101 Constitution Ave., Washington 25 D C Secretary

Florida Medical Association Hollywood April 23 26 Dr Robert B McIver P O Box 1018 Jacksonville Secretary

Georgia, Medical Association of Macon Hotel Dempsey April 18-21 Dr Edgar D Shanks 478 Peachtree St. N E Atlanta Secretary

Hawaii Territorial Medical Association Hilo May 4-7 Dr I L. Tilden Mabel Smyth Bldg Honolulu 13 Secretary

Illinois State Medical Society Springfield Illinois State Armory May 23 25 Dr Harold M Camp 224 S Main St Monmouth Secretary

International and Fourth American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14-19 Dr Fred L Adair 161 E. Erie St Chicago 11 Information Headquarters

International Congress on Asthma Mont Dore, France, June 3-4 Secretariat 59 rue Bonaparte Paris France

Iowa State Medical Society Burlington April 23-26 Dr Allan B Phillips 406 Sixth Ave Des Moines 9 Secretary

Kansas Medical Society Wichita May 15 18 Dr D D Vermillion, 512 New England Bldg Topeka Secretary

Louisiana State Medical Society Baton Rouge April 24-26 Dr P T Talbot 1430 Tulane Ave New Orleans 13 Secretary

Maryland Medical and Chirurgical Faculty of the State of Baltimore April 25 26 Dr George H Yeager 1211 Cathedral St. Baltimore 1 Secretary

Massachusetts Medical Society Boston Hotel Statler May 16-19 Dr H Quimby Gallupe 8 Fenway Boston 15 Secretary

Mississippi State Medical Association Jackson May 9 11 Dr T M. Dye Box 295 Clarksdale Secretary

National Tuberculosis Association, Washington D C April 25 28 Dr James E Perkins 1790 Broadway New York 19 Managing Director

Nebraska State Medical Association Lincoln Hotel Cornhusker May 1-4 Dr R B Adams, 1315 Sharp Bldg Lincoln Secretary

New Jersey Medical Society of Atlantic City Haddon Hall May 22 24 Dr Marcus H Greifinger 315 W State St. Trenton 8 Secretary

New Mexico Medical Society Las Cruces May 4-7 Dr H L January 4852 Southern Ave. Albuquerque Secretary

New York Medical Society of the State of New York, May 8 12 Dr Walter P Anderton 292 Madison Ave New York 17 Secretary

North Carolina Medical Society of the State of Pinehurst The Carolina May 1 3 Dr Millard D Hill, 15 W Hargett St. Raleigh Secretary

North Central Clinical Society Cincinnati Netherland Plaza Hotel April 29 Dr John H Payne, 5 W Fourth St Cincinnati Secretary

North Dakota State Medical Association Grand Forks May 27 30 Dr O A Sedlak 702 First Ave. S Fargo Secretary

Ohio State Medical Association Cleveland May 16-19 Mr Charles S Nelson 79 E State St. Columbus 15 Executive Secretary

Oklahoma State Medical Association Oklahoma City May 14-17 Dr Lewis J Moorman 210 Plaza Court, Oklahoma City Secretary

Rhode Island Medical Society Providence, R I Medical Library May 10 11 Dr Morgan Cutts, 106 E. Francis St. Providence 3 Secretary

Society of American Bacteriologists Baltimore May 15-19 Dr John E. Blair 1919 Madison Ave., New York 35 Secretary

South Carolina Medical Association Myrtle Beach May 16-18 Dr Julian P Price 105 W Cheves St Florence Secretary

South Dakota State Medical Association Mitchell May 20-23 Dr Roland G Mayer 22½ S Main St., Aberdeen Secretary

Texas State Medical Association of Fort Worth May 2 5 Dr Harold M Williams 700 Guadalupe St. Austin, Secretary

Western Branch American Public Health Association, Portland, Ore May 30 June 1 Mr Walter S Mangold, University of California Berkeley Calif Secretary

GOVERNMENT SERVICES

ARMY

THIRD INTER-AGENCY HOSPITAL INSTITUTE

During the first week of the Inter-Agency Hospital Institute, held under the sponsorship of the Army Medical Department April 17 to May 5 at the Army Medical Center, Washington, D C, the following subjects were discussed hospital administration, government responsibility for hospitalization, executive leadership, personnel management principles, hospital nursing and medical education These institutes are held every six months to give hospital managers of the three military and three nonmilitary agencies controlling government hospitals a wide concept of management of hospitals so as to create an objective attitude of leadership in hospital management and administration Participating agencies are the Army, Navy, Air Force, Veterans Administration, Public Health Service and Bureau of Indian Affairs Speakers scheduled for the first week of the institute were Mr Fletcher C Waller, Atomic Energy Commission, Eli Ginsberg, Ph D, School of Business, Columbia University, New York, Dr Malcolm T MacEachern director, Program in Hospital Administration, Northwestern University, Chicago, Miss Lucy Germaine, director, School of Nurses and Nursing Service, Harper Hospital, Detroit, Mr George Henigan Department of Speech, George Washington University, Washington, D C., Mr F A McNamara, director, Hospital Division, Bureau of the Budget, Dr R D Buerki, University of Pennsylvania School of Medicine, Philadelphia, Mr Thomas R Reid, McCormick and Company, Inc, Baltimore, Mr George Bugbee, American Hospital Association, Chicago, and Mr C R Uphoff, National Security Resources Board, Washington, D C.

ADVISORY BOARD ON PATHOLOGY

The Scientific Advisory Board of the Armed Forces Institute of Pathology held its sixth meeting at that institution March 31 Dr Shields Warren Pathologist, Deaconess Hospital, Boston, was elected chairman for the year, succeeding Dr Howard Karsner Discussed at the meeting were plans for the new Armed Forces Institute of Pathology building, the status of integration of the Navy and Air Force into the Armed Forces Institute of Pathology and plans for long range problems Other members of the board present were Dr James Kernohan, Rochester, Minn , Dr Baldwin Lucke, University of Pennsylvania Medical School, Philadelphia, Dr Robert A Moore, Washington University, St. Louis, Dr Arnold R Rich, Johns Hopkins University Medical School, Baltimore, Dr Milton C Winternitz, National Research Council, Washington, D C., Dr Henry A Swanson, Washington, D C, and Brigadier General George R Callender, U S Army (retired), head, Laboratory Division, Veterans Administration, Washington, D C.

RECENT APPOINTMENTS IN MEDICAL CORPS

The appointments of the following new medical officers have been approved by the President

First Lieut Alexander W Ashford Athens Ga.
Capt William P Blocker Jr, El Paso Texas.
Capt Edward S Bres Jr, New Orleans
First Lieut. Warren C Evans Norfolk Va
Major Charles S Finch Jr, Palo Alto Calif
Major Marcus H Flinter, Arlington Va
Capt Richard G Hamill Las Cruces N Mex.
Capt James B Hampton Ancon Canal Zone
Major Everett G King Duncan Okla
First Lieut Donald R Korst Hamburg N Y
First Lieut Alfred Lubart New York.
Capt David E MacQuigg Minetto N Y
Major Edward S Miller St. Augustine Fla
First Lieut Alois Peczenik, Augusta Ga
First Lieut Walter S Price Washington D C.
First Lieut. Richard A. Walsh Brooklyn.
First Lieut. Matthew J Weir Mankato Minn

CIVILIAN CONSULTANTS TO EUROPEAN COMMAND

Dr James H Townsend of Tufts College Medical School, Boston, and Dr Carl E Johnson of Yale University College of Medicine, New Haven, Conn, who went to Europe April 5 as Army Medical Department consultants, will spend 30 days advising Army surgeons in the European Command.

PERSONAL

Col Leon L Gardner (MC, retired) has been appointed chief of preventive medicine of the city of Richmond, Va., and will also serve as associate professor of preventive medicine at the Medical College of Virginia.

AIR FORCE

RESERVE COMMISSIONS UNDER ROTC PROGRAM

Graduates of medical, dental, veterinary and pharmacology colleges who participate in the ROTC program may now receive commissions in the U S Air Force Medical Service Reserve Previously, it was necessary for students in these categories who preferred reserve commissions in the Air Force to accept commissions in the Army and then request transfer The new agreement provides that 20 per cent of the students taking ROTC training may receive reserve commissions in the Air Force Medical Service Reserve This may be increased to 30 per cent should that number of students signify a desire for Air Force commissions Medical, dental, veterinary and pharmacology students now participating in the first and second year advanced ROTC course are to make a statement of choice of service prior to May 1, 1950 At time of application for the advanced course, senior division, students will state to the professor of Military Science and Tactics their choice of service. By joint agreement, the Air Force will furnish officers to staff about 20 per cent of medical ROTC instructors The medical ROTC program is administered by the Department of the Army At present, 49 medical colleges, 18 dental colleges, 6 veterinary colleges and 4 pharmacology colleges have ROTC programs Students may obtain full information from the professor of Military Science and Tactics in their college or university or on written request from the Surgeons General of the Army or Air Force, Washington 25, D C.

PERSONAL

Dr Josef P Pitchotka of the pathology department of the School of Aviation Medicine, Randolph Field, Texas, has returned to Germany to accept the professorship of physiology at the University of Frieberg Dr Pitchotka, a German national, was brought to the School of Aviation Medicine in May 1947, under contract to continue war time experiments in the field of frostbite prevention and remedies

Dr Kurt Kramer, another German national working in the Physiology Department at the School of Aviation Medicine, has been invited to return to Marburg University, Germany, where he previously taught, but has requested an extension in order to complete experimental work now under way

PUBLIC HEALTH SERVICE

NEW CLINICAL SECTION IN HEART INSTITUTE

Establishment of a Clinical Section on General Medicine and Experimental Therapeutics as a part of the research program of the National Heart Institute of the Public Health Service was announced March 29 Dr Luther L Terry, chief of the Medical Service, U S Marine Hospital Baltimore, will head the new section At the outset the section will function as a clinic in the Baltimore U S Marine Hospital, where about 60 beds will be devoted to the program. The section will form a nucleus for the clinical staff of the National Heart Institute at the new Clinical Center of the National Institutes of Health which will open in Bethesda, Md in 1952 Problems of hypertension will be given major emphasis by the section Dr Terry received his M D degree in 1935 from Tulane University in New Orleans Subsequently he received training in internal medicine in Hillman Hospital, Birmingham, Ala and University Hospitals and City Hospital Cleveland During 1939 1940 he was associated with Washington University School of Medicine, St. Louis, in a research and teaching position Prior to joining the Public Health Service, in 1942, he was a member of the faculty of the University of Texas He is a specialist certified by the American Board of Internal Medicine

REPORT OF MENTAL HEALTH CLINIC

The Prince Georges County (Md) Mental Health Clinic, which was established to develop methods by which a community can use existing facilities to improve mental health, completed its second year of operation on January 19 during which 468 persons were seen for consultation or treatment Of this number, 281 were under 18 years of age. Of the 187 adults who came to the clinic, 123 were women The largest number of patients 36 per cent, came because of problems related to the family, some 18 per cent came because of problems concerning school or learning, 13 per cent had marital problems, 10 per cent had problems related to social adjustment, and 2 per cent had problems relating to job or vocational worries Family physicians referred 23 per cent, 21 per cent were referred by schools, 16 per cent were referred by health and social agencies and 10 per cent were sent by other referral sources

In making use of existing organizations to promote mental health, the clinic has worked with the County Health Department, the schools and organizations of the parents in the area. The clinic staff has also worked with organizations which have wished to organize small groups of parents to discuss mental health problems In addition about 2 000 persons have attended some 30 talks during the year to Parent-Teacher Associations women s clubs, church groups and others The clinic is under the direction of Dr Mabel Ross, psychiatrist detailed to the post by the Public Health Service.

CANCER CONTROL RESEARCH GRANTS

Grants totaling $301,159 for twenty-two cancer control projects in twelve states, Hawaii and Puerto Rico have been announced by the Federal Security Administrator Seven of the grants, totaling $57 353, are new awards the other fifteen are renewals Following are the new grants

Los Angeles County Hospital California Dr Edward M Butt $10 000 for slide-tumor library and registry

Association of American Medical Colleges Chicago Dr David S Ruhe $3 748 for an evaluative study of existing cancer teaching films

Washington University Medical School St. Louis Drs Robert Elman and Leo A Schar $13 154 for study of nutritional rehabilitation and metabolism in patients with advanced cancer

Washington University St Louis Dr Robert A. Moore. $3 385 for health and education particularly cancer in clinic

American Cancer Society New York Dr Brewster S Miller $2,233 for one half of total cost of issuing *Proceedings of the National Cancer Conference*

Trustees of University of Pennsylvania Dr Cecilia Riegel $9 833 for study of substances reacting with tryptophan and for attempts to identify them

Meharry Medical College, Nashville Tenn Dr G J Tarleton Jr $15 000 for radiotherapy equipment to complete armamentarium of existing combined unit for cancer control teaching and research

LONGEVITY OF WOMEN

The latest available figures show that the average length of life of white women in the United States has reached a new high of 71 years The average for white men is 65 5 years The figures cited were compiled by the Public Health Service and are based on 1948 death rates The average longevity of nonwhite persons is lower—58 1 years for men and 62 5 years for women, according to the 1948 figures The difference in average longevity between white and nonwhite persons, however, has decreased from about 15 years in 1900 to about 8 years in 1948 The difference in average length of life between men and women in the United States has steadily increased from less than 3 years in 1900 to 5½ years

CONFERENCE ON PROGRESS IN VENEREAL DISEASE

A symposium on Current Progress in the Study of Venereal Disease will be held in Washington, D C., April 27-28 The symposium is sponsored by the American Venereal Disease Association and the Experimental Therapeutics Study Section of the National Institutes of Health Meetings will be held in the Thomas Jefferson Auditorium of the Department of Agriculture.

In addition to a presentation of papers the afternoon session on April 28 will feature a panel discussion on the international aspects of venereal disease control Information concerning the symposium may be obtained from Mr Francis L Schmehl, Executive Secretary, Experimental Therapeutics Study Section, National Institutes of Health, Bethesda 14, Md.

MISCELLANEOUS

EXAMINATION FOR MEDICAL OFFICERS

The U S Civil Service Commission is accepting applications for medical officer positions paying $5,400 and $6,400 a year and for medical officer (specialist) positions paying $7,600 to $10 000 a year The positions are located in various federal agencies in Washington, D C., in the Railroad Retirement Board in Chicago, in the U S Public Health Service, the Children s Bureau and the Indian Service, located throughout the United States and in Alaska and in the Panama Canal Service in the Panama Canal Zone.

Applicants must be graduates of a medical school and, for most of the positions paying $5,400 a year, must have completed a full internship For medical officer (specialist) positions, except in the field of general medicine and surgery, administrative medicine and adjudicative medicine, applicants must have had a full internship in the specialized field for which they apply or at least one year of postgraduate study or one year of full time training as a resident in the specialty For all positions paying $6 400 and above professional medical experience is required. No written tests are required

The maximum age limits for these positions are as follows For the Panama Canal Service, 45 years, for the Indian Service, 50 years for medical officer and 55 years for specialist positions and for other agencies, 62 years For persons entitled to veteran preference, the 45, 50 and 55 year age limits are extended to 62 years and the 62 year age limit is waived without limitation

Information regarding these positions is given in announcement 217 and in Examining Circular 24, which may be consulted at most first and second class post offices, or copies may be secured from civil service regional offices or from the U S Civil Service Commission, Washington 25, D C.

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest such as relate to society activities new hospitals education and public health Programs should be received at least two weeks before the date of meeting)

ARIZONA

Public Health Association Meeting —The annual meeting of the Arizona Public Health Association will be held April 20-21 at Safford, with headquarters at the Buena Vista Hotel A workshop on "Public Health and Arizona Economy" will be the main feature of the program Section workshop meetings will be held for sanitarians, nurses, clerks, laboratory workers and special services The special services section is open to all persons interested in public health but who are not working in one of the other fields mentioned Dr Harold M Graning, Washington, D C, chief, state and local health services branch of the U S Public Health Service, will conduct the round table following the section meetings

CONNECTICUT

Summer School of Alcohol Studies —The eighth annual session of the Yale Summer School of Alcohol Studies will be held at Yale University, New Haven, July 8 to August 4 A new emphasis will be placed on the particular problems of alcoholism in industry The Yale program is now in operation in Wisconsin, with the cooperation of the Wisconsin Bureau of Alcoholic Studies Before the summer session begins, two further studies will have been completed (1) the occupational status and history of more than 2,000 patients of alcohol clinics and (2) the problems encountered by union stewards Registration for the summer session will take place July 8-9 Elvin M Jellinek, Sc D, research associate in applied physiology at Yale, will direct the school After two weeks of general background lectures the student body will be divided into two groups (1) persons interested in the legal, educational, religious and community problems involved in alcoholism and (2) physicians, social workers and others concerned with the care and treatment of alcoholics The summer program includes 55 lectures, informal group meetings, visits to the laboratory, clinical and other facilities and individual consultations with staff members In addition, the schedule will provide about 12 hours each for the student workshop dealing with special interests All desiring to enrol are required to have a college education or equivalent experience Part and whole scholarships are awarded annually by the summer school to qualified persons Correspondence should be addressed to Summer School of Alcohol Studies, Laboratory of Applied Physiology, Yale University 52 Hillhouse Ave, New Haven

DISTRICT OF COLUMBIA

Sight Saving and Braille Class —A new course will be given at the Catholic University, Washington, D C, June 26 to August 5, to train teachers of sight-saving classes and teachers of Braille classes Lectures and clinics will be presented Address inquiries to Roy J Deferrari, Office of the Secretary General, Catholic University, Washington, D C

GEORGIA

Society News —At the March meeting of the Atlanta Radiological Society, the following officers were elected Drs William W Bryan and George R Hrdlicka, both of Atlanta, president and vice president, respectively, and Dr Ted F Leigh, Emory University, secretary-treasurer

Medical School Made Independent Unit —Following recommendations made by George D Strayer, Ph D, of Columbia University, New York, and his associates who made a special survey of the University System of Georgia, the Board of Regents of the University System has declared the medical school a separate and independent unit within the system, restored the name to Medical College of Georgia and changed the title of the head of the school from dean to president

Centennial State Medical Meeting in Macon —The one hundredth annual session of the Medical Association of Georgia will be held April 18-21 at the City Auditorium in Macon, under the presidency of Dr Enoch Callaway, LaGrange. The Abner Wellborn Calhoun Lecture will be given by Dr Thomas M Rivers of the Rockefeller Institute for Medical Research, New York, on "Reaction and Relation of Host Cells to Viruses" Other out of state speakers include Dr Ernest E Irons, Chicago, President, American Medical Association, Dr Jacob E Finesinger, Baltimore, who will speak on "Handling the Emotional Problems of the Cancer Patient," and Dr Richard L Meiling, Washington, D C, "Medical Services in the Department of Defense" Headquarters for the Woman's Auxiliary will be the Hotel Dempsey Both scientific and technical exhibits will be shown

ILLINOIS

Facilities for Mental and Chronic Patients —Applications for state and federal aid to local hospitals for construction of facilities for chronically and mentally ill patients will be reviewed by the state Advisory Council on Hospitals at a May 11 meeting in Springfield A total of $1,500,000 in governmental funds is available to Illinois hospitals for these special projects during the fiscal year beginning July 1 Dr Roland R Cross, director of the State Department of Public Health, said that applications for state and federal assistance for the construction of facilities for the chronically or mentally ill must be submitted to him by April 20

Graduate Conference in Peoria —A postgraduate conference will be held at the Pere Marquette Hotel, Peoria, April 20, with the Peoria Medical Society acting as host Chicago participants will be

Eugene F Traut, Arthritis Current Treatment
Edwin N Irons Treatment of Infectious Diseases New Antibiotics
Eugene A Hamilton Low Back Pain
Lindon Seed Acute Conditions of the Abdomen Early Diagnosis
Louis R Limarzi Infectious Mononucleosis.

A round table will conclude the afternoon's session In the evening Dr William A Brams, associate professor of medicine, Northwestern University Medical School, will speak on "Treatment of Heart Disease" The Fourth Councilor District covers the counties of Fulton, Hancock, Henderson, Henry, Knox, McDonough, Mercer, Peoria, Rock Island, Schuyler, Stark and Warren The conference was arranged by the Postgraduate Education Committee of the Illinois State Medical Society

Chicago

Infectious Hepatitis —According to the Illinois Department of Public Health, reports reveal an increase of over 80 per cent in the incidence of infectious hepatitis in the period 1947 through 1949 The factors responsible for the increase in this area are not apparent, but current veterinary reports of canine leptospirosis suggest that some of the cases of infectious hepatitis reported may have been cases of hemorrhagic jaundice, or Weil's disease

Dr Sturgis to Give Edwin Kretchmer Lecture —Dr Cyrus C Sturgis, professor of medicine, University of Michigan Medical School, Ann Arbor, and director, Thomas Henry Simpson Institute for Medical Research, will deliver the ninth Edwin R Kretschmer Memorial Lecture of the Institute of Medicine of Chicago on the evening of April 28, at the Palmer House His subject will be "An Evaluation of the Nature, Treatment and Prognosis of Leukemia"

Organize Society of Physical Medicine —Early in March a few persons interested in physical medicine met to discuss the formation in the Chicago area of a society in the field of physical medicine Dr Charles O Molander, assistant professor of physical medicine, Northwestern University Medical School, is acting as temporary chairman A committee on constitution and another on program will report at the organizational dinner meeting April 19 at 6 30 p.m in the headquarters of the Chicago Real Estate Board, 105 West Madison Street All interested are invited to attend

Dr Maddock Named Elcock Professor —Dr Walter G Maddock has been appointed Edward G Elcock professor of surgery at Northwestern University Medical School He joined the medical school faculty in 1946 after four years of service as a colonel in the army medical corps in the European theater, where he served as commanding officer of the 298th General Hospital He is a specialist certified by the American Board of Surgery and is now president of the Central Surgical Association The Elcock professorship was made possible by a gift in 1923 from Edward G Elcock, Chicago industrialist, who died in 1934

KENTUCKY

Pediatric Society Meeting —The first annual meeting of the Kentucky Society for the Advancement of Pediatrics will be held in Louisville April 21 Speakers at the afternoon meeting at the Louisville General Hospital amphitheater will be Dr John Caffey, New York, professor of pediatrics and roentgenology, Columbia University, New York, whose subject will be "Congenital Obstructions of the Alimentary Tract," and Dr Alexander A Weech, Cincinnati, head, department of pediatrics, University of Cincinnati, "A Pediatrician Looks at the Behavior Disorders of Children" Dr Caffey will also address the dinner meeting at the Pendennis Club on "Bronchial Obstructions and Cystic Disease of the Lungs" Officers of the society are Drs William W Nicholson, Louisville, president, J Ewing Dunn, Paducah vice president, and Cathryn C. Handelman, secretary-treasurer

LOUISIANA

Grant to Expand Ophthalmology Department —The Tulane University of Louisiana School of Medicine, New Orleans is establishing an expanded program of research and graduate teaching in diseases of the eye on the basis of a $50 000 grant from the Edward G Schlieder Educational Foundation of New Orleans A laboratory of pathology of the eye will be set up in the new wing of the Eye, Ear, Nose and Throat Hospital, and a laboratory of bacteriology of the eye will be established in the Hutchinson Memorial Hospital both for diagnosis and research The graduate courses in ophthalmology will be expanded to eleven months, and new subjects will be added Annual short courses for practicing ophthalmologists also will be established, on the use of new types of diagnostic treatment on cancerous tumors and other growths and on clinical ophthalmology The last will be a symposium, accommodating about 100 specialists, with addresses and demonstrations by authorities in the field Lectures will be given for general practitioners and specialists in other fields The program will be under the direction of Dr James H Allen, formerly professor of ophthalmology University of Iowa College of Medicine Iowa City, who has been appointed professor of ophthalmology The Schlieder Foundation last July gave $60 000 for the development and expansion of the school's psychiatric facilities The funds were left by the late Edward G Schlieder, New Orleans philanthropist who died May 12 1948

MICHIGAN

Dr Blain Honored —On Dr Alexander W Blain's sixty-fifth birthday the bulletin of the hospital which bears his name was dedicated to its founder in Detroit, March 4 Fifteen scientific papers were contributed by students who had had a portion of their surgical training under his guidance. Other contributors were Dr Frederick A Coller, of the University of Michigan Ann Arbor, president of the American College of Surgeons and Dr John R. Boland, associate physician at the Blain Clinic since 1911

NEW YORK

Postgraduate Lectures —The Medical Society of the State of New York, with the cooperation of the New York State Department of Health, has arranged for the following lectures The Rensselaer County Medical Society meeting at 8 p m May 16 at the County Court House in Troy will hear Dr Samuel Kleinberg speak on "Back Pain" The Utica Academy of Medicine will hear Dr Henry T Randall, New York speak on "Shock" at a meeting May 18 at 8 p m in the Hotel Utica

A change in date from April 12 to May 24 has been made for one of the series of lectures on industrial medicine arranged for the Sullivan County Medical Society Dr James H. Sterner of Eastman Kodak Company, Rochester, N Y, will speak on Systemic Effects of Various Substances Commonly Used in Industry" at 8 30 p m at the Lenape Hotel in Liberty

New York City

Hospital Alumni Meeting —The New York University-Post Graduate Medical School-Bellevue Hospital Ophthalmological Alumni Association will hold its meeting at New York University College of Medicine April 17-18

Personal —Dr Elise Strang L'Esperance, assistant professor of preventive medicine at Cornell University Medical College, has been promoted to clinical professor of preventive medicine She has been associated with Cornell since 1910 and is director of the Strang Cancer Prevention Clinics of Memorial Hospital

Friesner Lecture —Dr Juda Groen, physician in chief of the Second Medical Service, Wilhelmina Gasthuis Amsterdam, Netherlands, will deliver the Isidore Friesner Lecture of Mount Sinai Hospital on "Emotional Factors in the Etiology and Treatment of Internal Diseases," April 25 at 8 30 p m in the Blumenthal Auditorium

Charter Day Services —New York Medical College, Flower and Fifth Avenue Hospitals observed its ninetieth anniversary April 12 with special Charter Day services Alumnus Dr Marcus D Kogel, City Commissioner of Hospitals, delivered the principal address "Changing Concepts in Medicine." Other speakers at the reception and banquet were Dr J A. Werner Hetrick, dean, and Charles D Halsey, chairman of the board of trustees

Wyckoff Lecture —Dr George W Thorn, Hersey professor of the theory and practice of physic, Harvard Medical School, Boston, gave the annual John Wyckoff Lecture for 1950 at New York University College of Medicine 'Studies on the Use of ACTH and Cortisone' on March 28 and "Clinical Use of the Artificial Kidney' on March 29 The John Wyckoff Lectureship was established by the Phi Delta Epsilon Fraternity

Strausberg Memorial Lecture —The Fourth Annual Samuel Strausberg Memorial Lecture, sponsored by the Board of Directors and the Clinical Society of the Beth-El Hospital, will be given the evening of April 27 in the MacNaughton Auditorium of the Kings County Medical Society Building The speaker is Dr Theodore B Bayles, assistant in medicine, Harvard Medical School, Boston, whose subject will be "Physiology and Clinical Uses of the Adrenocorticotropic Hormone."

Appointed to Speech Hospital —Dr Douglas B Remsen, a graduate of Johns Hopkins University, Baltimore, 1929, has been appointed associate director of the National Hospital for Speech Disorders For ten years Dr Remsen has been associate professor of medicine at the Medical College of the State of South Carolina in Charleston The National Hospital for Speech Disorders was founded in 1917 by Dr James S Greene. More than 4,000 patients from all parts of the country and from foreign countries are treated annually, 60 per cent of them in free clinics

Bluestone Fellowship Fund —Dr Ephraim M Bluestone, director of Montefiore Hospital for Chronic Diseases, was honored March 30 by the creation of a $5,000 fellowship fund in hospital administration in his name by Hadassah, the Women's Zionist Organization of America. The fund will be used to enable Israel students to study in this field in the United States It is being set up in appreciation of the 20 years of service he has given to the Medical Reference Board of Hadassah and the Hebrew University, 11 of them as chairman An additional $1,000 has been designated for a project to be agreed on by Dr Bluestone and Hadassah "to help advance the frontiers of medical science." Dr Blustone was director of the Hadassah Medical Organization in Palestine from 1926 to 1928

Discussion on Tuberculosis in Children —Tuberculosis in children—diagnosis and treatment—was the subject of a discussion for the forty-seventh clinical session on chronic pulmonary diseases sponsored by the Tuberculosis Sanatorium Conference of Metropolitan New York at Cornell University Medical College Amphitheatre, April 12 The panel of pediatricians included Bela Schick of Mount Sinai and Sea View hospitals Edith M Lincoln, chief of tuberculosis service, Children's Medical Service, Bellevue Hospital, Charles W Lester, Bellevue Hospital, John Caffey, Columbia University College of Physicians and Surgeons, and Oscar Auerbach Halloran Veterans Administration Hospital Dr H McLeod Riggins, assistant clinical professor of medicine, Columbia University College of Physicians and Surgeons, served as moderator

Dr Erdmann Honored.—Dr John F Erdmann, surgeon, on his eighty-sixth birthday, March 27, was honored with the presentation by Mayor William O'Dwyer of the city's Certificate of Merit in recognition of his public service during more than a half-century of practice. The presentation at University Hospital was attended by several hundred guests including Winthrop Rockefeller, chairman of the Board of Trustees of the New York University-Bellevue Medical Center, and Dr Edward M Bernecker, administrative head of the hospital Dr Erdmann has been in active practice since his graduation from Bellevue Hospital Medical College in 1887 He also had been a member of faculty of the old New York Postgraduate Medical School for many years, where, after serving as director and professor of the department of surgery, he continues to act as consultant in surgery

OHIO

Joint Meeting —On March 14 at the College of Medicine, University of Cincinnati, Lucile Petry, assistant surgeon general of the U S Public Health Service, spoke on 'Nursing Research How It Affects and Improves Patient Care." The meeting was jointly sponsored by the Cincinnati Academy of Medicine and its Women's Auxiliary and the Council on Community Nursing of the Public Health Federation.

New Obstetrics Professor at Western Reserve —Dr Gilbert J Vosburgh, assistant professor of obstetrics, Johns Hopkins University School of Medicine, Baltimore, has been appointed professor of obstetrics and gynecology at the Western Reserve University School of Medicine, Cleveland, and director of the department of obstetrics and gynecology in the University Hospitals, effective in July Dr Vosburgh will be the first occupant of the Arthur H Bill chair of obstetrics and gynecology recently established at the university He is a graduate of Johns Hopkins University (1942)

OREGON

Society News—The Portland Academy of Medicine heard Dr William Boyd, professor of pathology and bacteriology, University of Toronto, Canada, in two lectures April 10 and 11, "The Spread of Tumors" and "The Pathology of Intercellular Substance," respectively

Sommer Memorial Lectures—These lectures will be given by the Multnomah County Medical Society in conjunction with the University of Oregon Medical Center Alumni Association meeting April 26-28 in the Library Auditorium of the University of Oregon Medical School, Portland The guest lecturers will be Dr Charles B Puestow, clinical professor of surgery, University of Illinois College of Medicine, Chicago, Clarence C Little, Sc D, Roscoe B Jackson Memorial Laboratory, Bar Harbor, Maine, and Homer W Smith, Sc D, of the physiology laboratory, New York University College of Medicine, New York

PENNSYLVANIA

Postgraduate Spring Sessions — The Spring Sessions of the third annual Graduate Education Institute sponsored by the Medical Society of the State of Pennsylvania opens the last week in April in 11 teaching centers throughout the state, with a faculty of 175 instructors from leading medical schools and hospitals lecturing to general practitioners on the latest in medicine and surgery Planned for the doctor who is unable to attend postgraduate lectures in metropolitan centers, the Graduate Education Institute brings the school to the doctor in the field Teaching centers have been established in Allentown, Clearfield, Erie, Harrisburg, Johnstown, Lancaster, Oil City, Reading, Scranton, Washington and Williamsport The schedule of lectures is so arranged that, if a doctor is unable to attend a particular session in a center nearest home, he may *attend an identical session in a neighboring center on another* date Subjects under discussion will include the early detection of cancer, preventive medicine and public health, eye, ear, nose and throat disorders, physical medicine, surgical diagnosis, care of the patient after operation, care of the chronic invalid and care and treatment of patients in the event of atomic disaster Instructors have been selected from the medical schools in Philadelphia and Pittsburgh and from hospitals throughout the state. Participants will be presented with certificates of recognition at the annual meeting of the State Society in Philadelphia next October

Philadelphia

Shmookler Memorial Lecture—The Henry B Shmookler Memorial Lecture will be delivered by Dr Maxwell M Wintrobe, professor and head of the department of medicine, University of Utah, Salt Lake City, on "Management of Hodgkin's Disease, the Leukemias and Related Disorders" The lecture will be presented at the Mount Sinai Hospital Nurses Home and Auditorium, Fifth and Reed Streets, May 3 at 9 p m

Cancer Lectures—A series of open meetings will be held in University Hospital's medical amphitheater, under the auspices of the University of Pennsylvania School of Medicine and the Cancer Division of the Department of Health, Commonwealth of Pennsylvania The lectures are as follows

April 17, Joe V Meigs Boston Cancer of the Female Pelvis
April 20, Sidney Farber, Boston Chemotherapy of Disseminated Cancer Experimental and Practical Considerations
April 25, Fred W Stewart, New York Cancer of the Breast
April 27, Howard B Andervont Sc D, Bethesda, Md The Milk Factor

Course on Atomic Medicine—The first organized course in the medical aspects of atomic energy was opened February 8 at Jefferson Medical College when Col James P Cooney (MC, USA) spoke on "The Problem of the Physician in an Atomic Disaster" The course, to be repeated annually, will consist of 18 hours of instruction to junior students, with 14 hours given by the departments of radiology, medicine and surgery The other four hours will be given by army medical officers

In the opening lecture Colonel Cooney placed the students in the position of a group charged with planning the medical defense against a Hiroshima-type explosion He said the casualties would be of three kinds, resulting from blast, burns and radiation The direct blast effect of the Hiroshima bomb was "rather insignificant," Colonel Cooney reported The indirect effect, however, "was tremendous" and was manifested by flying debris, masonry, timbers and glass fragments Burn casualties, he said, will be divided between those caused by the flash and those resulting from flames Beyond 1,000 yards, clothing "offered considerable protection against flash burns" Color and tightness of the clothes were factors, loose, light clothing provided more protection than tight, dark raiment Persons exposed to the flash will be temporarily blinded Concerning the third hazard, ionizing radiation, he said, "Let us not underestimate the radiation hazard The deaths from ionizing radiation at Hiroshima amounted to 9,000 However, the emphasis placed on it has confused and frightened people to the extent that many believe it will be dangerous to enter a bombed community and rescue the wounded This is unfortunate and erroneous," Colonel Cooney insisted "We cannot emphasize too strongly that the initial problem is the evacuation and treatment of the blast and burn casualties After the detonation of an atomic bomb, such as at Hiroshima and Nagasaki, it is perfectly safe to enter the area and rescue the wounded without fear of exposure to residual radiation"

Pittsburgh

Silver Anniversary of Pharmacy School—The Duquesne University School of Pharmacy will celebrate the twenty-fifth anniversary of its founding April 19-20 The scientific program beginning Wednesday afternoon will present the following speakers

Lloyd C Miller Ph D, Rensselaer, N Y Antibiotics Their Bright and Seamy Sides
Donald C Grove, Ph D Takoma Park, Md Regulatory Control of Antibiotics
Harry M Crooks Jr Ph D Detroit Chloromycetin® (Chloramphenicol)
Elliot R Weyer Ph D Brooklyn Future Antibiotics.
Alfred Halpern Ph D Pittsburgh, New Ophthalmic Ointments

TEXAS

State Medical Meeting at Fort Worth—The annual session of the State Medical Association of Texas will be held in Fort Worth with headquarters at the Texas Hotel April 30 to May 4, under the presidency of Dr George V Brindley, Temple Guest speakers at the general sessions include

Mr Cecil Palmer London England, Socialized Medicine in Practice
Robert J Crossen St. Louis Malignancies of the Uterus
Orvar Swenson Boston Time and Choice of Operative Procedures in Infancy and Childhood
John W Cline San Francisco Current Status of the Campaign to Socialize American Medicine

SYMPOSIUM Some Aspects of Thyroid Disease

Paul A Chandler Boston, Diagnostic Eye Signs
Thomas J Dry Rochester Minn, Cardiovascular Evidence.
Dr Swenson Hyperthyroidism in Children from a Surgical Standpoint
Frank W Konzelmann Atlantic City N J Differential Diagnosis of Thyroiditis
Howard B Hunt, Omaha Radioiodine in Evaluation and Treatment of Thyroid Disease
Dr Crossen Thyroid Dysfunction and Sterility
Ernest L Stebbins Baltimore, Prevention of Endemic Thyroid Disease.

SYMPOSIUM Jaundice

Howard K Gray, Rochester, Minn, Jaundice in General Surgery
Carl T Javert, New York Jaundice and Pregnancy
Dr Dry Tests of Hepatic Function
Dr Konzelmann, Pathologic Aspects of Jaundice
Dr Stebbins Distant Appraisal of Yellow Fever Vaccine Hepatitis.

Section programs have been planned and numerous state associations will meet in conjunction with the association The President's Reception and Ball will be at the Blackstone Hotel Tuesday at 9 15 Clinical and general meeting luncheons and alumni and fraternity banquets have been scheduled A color television exhibit originating in St Joseph's Hospital will be presented through Smith, Kline and French Laboratories of Philadelphia Monday, Tuesday and Wednesday afternoons Technical exhibits will be shown The Woman's Auxiliary Headquarters will be the Blackstone Hotel

UTAH

Joint Meeting of Surgical Society and State Medical Association—The Ogden Surgical Society, in cooperation with the Utah State Medical Association, will hold its annual meeting April 24-26 at the Orpheum Theatre in Ogden The following physicians are on the program Drs LeRoy Abbott, San Francisco, Dermid L C Bingham, Kingston, Ontario, Canada, Alfred Blalock, Baltimore, Guy L Boyden, Portland, Ore., George E Burch, New Orleans, John Caffey, New York, Michael E DeBakey, Houston, Texas, Claude E Dixon, Rochester, Minn, Frank H Lahey, Boston, George H Gardner, Chicago, T Leon Howard and Henry Swan, Denver, Charles S Cameron, New York, and Maxwell M Wintrobey, Salt Lake City Dr Charles S Cameron, New York, will give a public address at Ogden High School April 24 at 8 30 p m This scientific meeting will replace the annual 1950 meeting of the Utah State Medical Association

WASHINGTON

Spokane Surgical Society—Dr Robert M Zollinger, chairman, department of surgery, Ohio State University College of Medicine, Columbus, was guest speaker at the annual meeting of the Spokane Surgical Society at the Davenport Hotel April 8 He spoke at the luncheon on "Clinical and Experimental Observations on the Diagnosis of Pancreatic Lesions" and at the banquet on "Experiences with One Hundred Consecutive Splenectomies"

GENERAL

Pacific Northwest Medical Society.—The annual meeting of the Pacific Northwest Radiological Society will be held at the Spokane Hotel, Spokane, Wash., May 6-7. Drs. Merrill C. Sosman, Boston, and Juan A. del Regato, Columbia, Mo., are to be the guest speakers. Dr. Sosman is to speak on "Diagnosis of Skull and Intracranial Disorders" and "Diagnosis of Heart Disease." Dr. de Regato's subjects are "Cancer of the Lower Lip" and "Treatment of Carcinoma of the Cervix." Additional talks will be given by the members of the society. A film discussion is scheduled for Sunday morning. Nonmembers interested in the meeting are invited to attend.

Public Health Meeting.—The public health associations of Missouri and Kansas will meet jointly April 24-26 in Kansas City, Mo., at the Municipal Auditorium. Speakers at the general sessions include Mr. H. Roe Bartel, Kansas City, Mo.; Dr. Franklin D. Murphy, Kansas City, Kan.; Dr. Floyd C. Beelman, Topeka, Kan., secretary of the Kansas State Board of Health; Dr. Buford G. Hamilton, Missouri State Health Officer; Miss Marion Sheahan, New York, and Mr. Walter Snyder, of the National Sanitation Foundation, Ann Arbor, Mich. The remaining time will be devoted to section meetings and individual state business meetings.

National Hearing Week.—The American Hearing Society *is sponsoring annual National Hearing Week May 7-13, when* it will present to the American public facts regarding the national hearing problem. According to the society, the primary need is inform the public that while one person in 10 has impaired hearing there is much that can be done to prevent a hearing loss from becoming a hearing handicap. Part of the problem is testing the hearing of 24 million school children and providing for those who require medical treatment, instruction in lip reading, speech correction and hearing aids. The American Hearing Society and its 119 chapters provide eight types of service designed to assist the hard of hearing.

Doctor-War Prisoner Status.—To prevent certain hardships suffered in previous wars by physicians of the Armed Services who fell into enemy hands the World Medical Association is planning to have all nations fix a status for captured doctors which, while entitling them to the formal rights of a prisoner of war, will not actually designate them as such. At the annual meeting of the organization's Council in Copenhagen, Denmark, April 24-28 this issue will be discussed. Those going to Copenhagen as representatives of the U. S. Committee of the association are Dr. Elmer L. Henderson, Louisville, Ky., president-elect of the association and Dr. Roscoe L. Sensenich of South Bend, Ind. Past President of the American Medical Association. Others attending the meeting will be Dr. Morris Fishbein, Chicago, editor of the World Medical Association's bulletin, and Dr. Louis H. Bauer, New York, secretary-general.

Joint Meeting of Pathologists.—The Middle-Eastern Region of the College of American Pathologists, the Baltimore Pathological Society, the Washington Society of Pathologists and the Section on Pathology and Laboratory Medicine of the Medical Society of the District of Columbia will hold a joint meeting May 9-10, at the medical society building in Washington, D. C. A seminar on Problems in Lymph Node Diagnosis will comprise the Tuesday afternoon session. Dr. R. Philip Custer, Philadelphia, will preside. Wednesday morning will be devoted to a symposium on carcinoma in situ of the cervix, with Drs. O. Benwood Hunter, Hugh G. Grady, Col. James E. Ash, retired, and Mr. Theodore O. Winship, all of Washington, D. C.; Drs. Edwin D. Murphy, Memphis, Tenn., and Richard W. TeLinde, Baltimore. The guest speaker at the evening scientific session will be Dr. Andrew C. Ivy, Chicago, whose subject will be "Differential Therapeutic Diagnosis of Jaundice."

Aptitude Testing Program.—Students desiring to enter dental schools in the class enrolling in the fall of 1951 will be asked to take aptitude tests administered by the Council on Dental Education of the American Dental Association. After a student's credentials have been accepted by the dental school the student may take a test at centers established at about 39 colleges and universities including Alaska, Puerto Rico and the Hawaiian Islands. Four testing periods are planned during Thanksgiving vacation 1950, during Christmas holidays and two other sessions in February and April 1951. No applicant may take the test twice. Inquiries about requirements of individual schools and the administration of the Testing Program should be addressed to the individual dental school. The addresses of the accredited dental schools may be obtained from the Council on Dental Education, 222 East Superior *Street, Chicago 11.*

Heart Association Grants $220,000 for Research.—Grants-in-aid totaling $220,000 have been awarded for heart disease research to 46 universities, hospitals, institutes and laboratories by the American Heart Association bringing to approximately $400,000 the total funds voted by the American Heart Association during the past year for research to be conducted in the academic year 1950-1951. This total does not include research funds independently allocated by affiliated local heart associations as part of their regional programs. All research allocations are made on recommendation of the Research Committee of the association's scientific council, of which Dr. Tinsley R. Harrison of Dallas, Texas, is chairman. Among the largest grants was one for $10,500 to Children's Hospital, Boston, for the study of the pathology of peripheral blood vessel disease, by Dr. Herrman L. Blumgart and $10,395 to Western Reserve University School of Medicine, Cleveland, for a three year study of metabolism of the heart muscle, by Dr. Victor Lorber.

American Psychiatric Association.—This association will hold its annual meeting May 1-5 at the Statler Hotel, Detroit, under the presidency of Dr. George S. Stevenson, New York. There will be a joint session of the Section on Psychoanalysis and the American Psychoanalytic Association Monday afternoon. The subjects of sections meetings include legal aspects of psychiatry, shock therapy, research, psychotherapy, industrial problems, psychopathology, psychosurgery, psychology, teaching concepts, private practice, veterans problems, child psychiatry, theory, relation of psychiatry to public health, treatment, hospitals, convulsive disorders, psychiatric social service, administrative problems and social sciences and international understanding. Thursday morning there will be a symposium on hospital administration and a motion picture symposium. Thursday at 8 p. m. in the Book-Cadillac Hotel a special academic lecture on psychosurgery will be presented by Dr. Walter J. Freeman, Washington, D. C. The annual dinner and dance will be held at the Book-Cadillac.

WHO Fellowships Aid 207 Health Specialists.—The World Health Organization in 1949 awarded fellowships to 207 doctors, nurses and other health personnel of 35 countries in Europe, the Western Pacific, Southeast Asia, the Eastern Mediterranean and the Americas. The number of countries to which fellows were assigned was increased in 1949; whereas 40 per cent of the recipients studied in the United States before 1949, about 26 per cent were placed in the United States last year. Fields in which the fellows studied included public health administration, sanitation, communicable diseases, public health nursing, maternal and child health, internal medicine, surgery and basic medical sciences. In addition, WHO in 1949 administered 27 fellowships awarded by the United Nations International Children's Emergency Fund to health personnel of Southeast Asia. They included 14 from India, 2 from Indonesia, 5 from Thailand and 6 from the Philippines. The 27 UNICEF fellowships administered by WHO are among a total of 76 fellowships authorized by the Children's Fund.

CORRECTION

Vulvovaginitis.—In the answer to the query entitled "Vulvovaginitis" in THE JOURNAL, February 25, page 610, the metric equivalents of the dosage of sulfadiazine given should have been 60 to 100 mg. per kilogram instead of 15 to 25 mg. per kilogram.

Periodically Painful Breasts.—Under this title in Queries and Minor Notes in THE JOURNAL, April 1, 1950, page 1037, in the sentence "The patient should take 15 mg. of ammonium chloride three times a day . . ." the dosage "15 mg." should have read 15 grains.

Marriages

ASHER G. RUCH, South Mountain, Pa., to Mrs. Ethel M. Kendig Zimmerman in Baltimore recently.

PHILIP A. RILEY JR., Jackson, Mich., to Miss Joane Boling at Sioux Falls, S. D., February 18.

FRANCES MARSHALL LOVE, Richland, Wash., to Mr. Louis F. Huck, of Pasco, Wash., in January.

ENOS D. MILLER, Wellman, Iowa, to Mrs. Cecil Graham of Grand Junction, Colo., in January.

GEORGE H. SCIARONI, Fresno, Calif., to Mrs. Siletha Tibbens in San Francisco, recently.

SANFORD FIFE BLACKBURN to Miss Marian Smith, both of Ogden, Utah, recently.

Deaths

John Claxton Gittings, Wynnewood, Pa, born in Williamsport, Pa May 23, 1874, University of Pennsylvania Department of Medicine, Philadelphia, 1895, emeritus professor of pediatrics at his alma mater, where in 1933 he was appointed William H Bennett professor of pediatrics, and the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania, served as lecturer in pediatrics at the Johns Hopkins University School of Medicine, Baltimore, emeritus member and past president of the American Pediatric Society, past president of the Philadelphia Pediatric Society, served during World War I, formerly medical director and president of the staff of Children's Hospital and chief of the pediatric service, Hospital of the University of Pennsylvania in Philadelphia, formerly on the editorial board of the *American Journal of Diseases of Children*, co-author of "Artificial Feeding of Infants" and "Tuberculosis in Infancy and Childhood", died March 8, aged 75

Edwin Gail Hamilton, Warren, Pa, born in North Clarendon, Pa, Dec 25, 1893, University of Pennsylvania School of Medicine, Philadelphia, 1919, member of the American Medical Association, fellow of the American College of Surgeons, served during World War I, returned to duty as a naval officer during World War II with the rank of lieutenant commander and later was advanced to the rank of full commander, in addition to the Presidential Unit Citation, held service ribbons for the American, European, African, and Asiatic-Pacific theaters, with numerous service stars, and the World War II Victory ribbon and medal, died January 24, aged 56

Robert Hastings Rogers, Newark, N J, Columbia University College of Physicians and Surgeons, New York, 1894, member of the American Medical Association, served as treasurer of the Essex County Medical Society for twenty-eight years and relinquished that post in 1940, affiliated with the Essex County Isolation Hospital in Belleville, and Presbyterian Hospital, for many years on the staff of the Newark Eye and Ear Infirmary, died in Philadelphia February 9, aged 83, of cerebral thrombosis

Charles Leonard Antony, Riverdale, N Y, Columbia University College of Physicians and Surgeons, New York, 1899, affiliated with St Francis, Misericordia, Harlem and City hospitals in New York, died in Woodhaven, N Y, December 10, aged 73, of cerebral hemorrhage

Ira E Atkinson, Lincoln, Neb, Omaha Medical College, 1887, served with the R O T C hospital in Lincoln during World War I, died February 11, aged 83, of heart disease

Clark Dyer Baker, Los Angeles, Rush Medical College, Chicago, 1903, member of the American Medical Association, served during World War I, affiliated with the Hollywood-Leland Hospital, died February 23, aged 78, of coronary occlusion

Abner Henry Bauscher ⊕ Reading, Pa, Jefferson Medical College of Philadelphia, 1908, past president of the Northeastern Pennsylvania Chapter of the National Society for the Advancement of Gastro-Enterology and Berks County Medical Society, member of the National Gastroenterological Association, served overseas during World War I, for many years affiliated with St Joseph's Hospital, where he was past president of the staff and formerly head of the department of gastroenterology, died February 24, aged 67, of hypertensive heart disease

George Nevin Beecher ⊕ Chicago, Chicago College of Medicine and Surgery, 1910, member of the American Association of Industrial Physicians and Surgeons, died in Columbus Hospital March 1, aged 61, of fibropurulent peritonitis and perforated peptic ulcer

Robert Alford Berry, Birmingham, Ala, Medical College of the State of South Carolina, Charleston, 1927, member of the American Medical Association, at one time health officer in Sumter County in S C, died in the Jefferson-Hillman Hospital February 10, aged 48, of subdural hemorrhage

Carlotta Swett Bunting, Hamden, Conn, Johns Hopkins University School of Medicine, Baltimore, 1901, died December 22, aged 76, of cerebral hemorrhage

Arthur Howard Butler ⊕ El Paso, Texas, Medical Department of Tulane University of Louisiana, New Orleans, 1895, served during World War I, superintendent of the El Paso City-County Hospital from 1928 to 1944, died February 2, aged 74, of mesenteric thrombosis

V. Bascom Cozby, Grand Saline, Texas, Southwestern University Medical College, Dallas, 1908, member of the American Medical Association, past president of the Van Zandt County Medical Society, veteran of the Spanish-American War and World War I, retired from National Guard with the rank of major, served as city health officer, for many years mayor of Grand Saline and member of the school board, Cozby-Germany Hospital named in his honor, first president of the Lions Club, died recently, aged 74, of carcinoma of the prostate

Pellegrino Antonio D'Acierno ⊕ Union City, N J, Regia Università di Napoli Facolta di Medicina e Chirurgia, Italy, 1906, specialist certified by the American Board of Obstetrics and Gynecology, fellow of the American College of Surgeons, served on the staffs of the North Hudson Hospital in Weehawken and the Margaret Hague Maternity Hospital in Jersey City, died March 2, aged 68, of coronary occlusion

Ralph Waldo Dawson, Detroit, Starling Medical College, Columbus, 1905, member of the American Medical Association, died February 28, aged 71, of adenocarcinoma of the gallbladder

Gerald H Dennis, Dayton, Ohio, Hahnemann Medical College and Hospital of Philadelphia, 1928, member of the American Medical Association, served during World War II and received the Bronze Star Award, died in the Veterans Administration Center February 25, aged 46, of squamous cell bronchogenic carcinoma of the right lung

John S Dohany, Detroit, Detroit College of Medicine, 1894, served on the staffs of St. Mary's, Harper and Providence hospitals, died February 25, aged 81, of bronchopneumonia and fractured right hip

Chester Madison Echols ⊕ Milwaukee, Rush Medical College, Chicago, 1901, past president of the Medical Society of Milwaukee County, died in St Joseph's Hospital February 20, aged 75, of coronary disease

John W Evers, Flint, Mich, Rush Medical College, Chicago, 1902, member of the American Medical Association, served overseas during World War I, died in the Veterans Administration Hospital, Dearborn, February 11, aged 72, of cerebral thrombosis

William Kerr Foster, Minneapolis, University of Minnesota Medical School, Minneapolis, 1921, member of the American Medical Association, served as medical examiner for Minneapolis high school athletics, affiliated with Asbury Hospital and the St. Barnabas Hospital, where he died February 25, aged 71, of coronary thrombosis

Thomas Cooper Fulton, St Paul, University of Minnesota College of Medicine and Surgery, Minneapolis, 1902, also received a degree in law, died February 25, aged 80, of coronary sclerosis and hypertensive heart disease

Boris Efim Greenberg ⊕ Boston, Tufts College Medical School, Boston, 1918, member of the American Urological Association, fellow of the American College of Surgeons, affiliated with the Evangeline Booth Maternity Hospital and Home in Brookline, Beth Israel and Boston State hospitals, died February 7, aged 63, of myocardial infarction

Joseph Wayne Greene, Independence, Mo, University Medical College of Kansas City, 1904, member of the American Medical Association, affiliated with the Independence Sanitarium and Hospital, died March 6, aged 72, of coronary occlusion

Guy Winfred Greer, Whitesboro, Texas, Memphis (Tenn) Medical College, 1911, member of the American Medical Association, died in St Vincent's Hospital, Sherman, February 11, aged 68, of heart disease.

Robert Henry Gulledge, Shreveport, La., Medical Department of Tulane University of Louisiana, New Orleans, 1899, died in the Physicians and Surgeons Hospital February 7, aged 80, of pneumonia and cerebral arteriosclerosis

E Vincent Hale, Anna, Ill, Beaumont Hospital Medical College, St. Louis, 1897, member of the American Medical Association, died February 17, aged 80, of coronary thrombosis

William Anderson Hambrick, Kansas City, Mo, Meharry Medical College, Nashville, Tenn, 1916, died in the Wheatley-Provident Hospital December 3, aged 63, of cerebral hemorrhage

John Stanley Harlow, Boston, Harvard Medical School, Boston, 1923, member of the American Medical Association, served in the French Ambulance Corps during World War I, died in Massachusetts General Hospital February 6, aged 53, of myocardial infarction and coronary thrombosis.

Ralph Lee Harris ⊕ Chicago, Rush Medical College, Chicago, 1923, formerly assistant clinical professor of medicine at his alma mater, served during World War I, died in the Presbyterian Hospital March 13, aged 52, of coronary thrombosis, myocardial infarction and rupture of the left ventricle.

⊕ Indicates Fellow of the American Medical Association

Charles Lester Harshbarger ⊕ Norton Va , Medical College of Virginia, Richmond, 1929, member of the American Association of Industrial Physicians and Surgeons, member of the school board, owner and chief surgeon of Norton General Hospital died suddenly February 21, aged 54, of coronary thrombosis

Lee Otis Hill ⊕ Camden on Gauley, W Va College of Physicians and Surgeons, Baltimore, 1905, died February 27, aged 69, of acute myocardial insufficiency

William Tell Hirschi, Clayton, Mo Marion Sims College of Medicine, St Louis 1899, member of the American Medical Association, died in St Vincent s Sanitarium, St. Louis, February 13, aged 77, of lobar pneumonia

Harold Otis Hunt ⊕ North Falmouth Mass , Boston University School of Medicine, 1909, died February 20, aged 68, of pulmonary carcinoma.

Robert Harold Jones, Fairmont W Va., Medical College of Virginia, Richmond 1933, member of the American Medical Association fellow of the American College of Physicians served overseas during World War II, affiliated with Laird Memorial Hospital in Montgomery from 1934 to 1941, affiliated with Fairmont General Hospital died in Pittsburgh March 2, aged 46, of toxic encephalopathy

Abraham I Kaufman, Boston, Washington University School of Medicine, St. Louis, 1929, died December 10, aged 60 of Hodgkin's disease.

Clarence Moore Kelley, Melrose, Mass Harvard Medical School, Boston, 1910 member of the American Medical Association and the American Psychiatric Association died recently, aged 65, of coronary occlusion

Walter Edwin Koppenbrink ⊕ Higginsville Mo Washington University School of Medicine, St Louis, 1913, past president, secretary and treasurer of the Lafayette County Medical Society, county physician, served as county coroner and chairman of the city board of health, an officer during World War I, died March 1, aged 59, of coronary thrombosis

Charles Alfonzo Leavy, Clayton, Mo , St. Louis University School of Medicine, 1903, member of the American Medical Association and the American Academy of Ophthalmology and Otolaryngology, died in the Missouri Baptist Hospital, St Louis, February 11, aged 77, of bilateral pyelitis and diabetes mellitus

Samuel Frank LeFevre ⊕ Portland, Ore., University of Oklahoma School of Medicine, Norman, 1911, served during World War I, on the staff of Emanuel Hospital, died in St. Vincent s Hospital February 14, aged 63, of hypertensive cardiovascular disease.

Samuel Lichner, Ocean City, N J , Bennett Medical College, Chicago 1914, died in St. Anthony s Hospital, St. Petersburg, Fla., February 4, aged 75, of bronchopneumonia

John Tullis Looney, Tishomingo, Okla. Rush Medical College, Chicago, 1884, served as county health officer, for many years college physician for the Murray State School of Agriculture, died in Oklahoma City February 11, aged 87, of congestive heart failure

Lothar Luft, New York, Universität Heidelberg Medizinische Fakultät Baden Germany, 1918, member of the American Medical Association, on the staff of Mount Sinai Hospital, died December 28, aged 58, of coronary thrombosis

Paul Frederick Morf ⊕ Chicago, Northwestern University Medical School, Chicago, 1897, fellow of the American College of Surgeons, served on the staffs of the Cook County Illinois Masonic, Evangelical Deaconess and Henrotin hospitals, died in McMinnville, Ore., March 4, aged 78, of postoperative pneumonia

Frank Joseph Norton ⊕ Chicago, Chicago Medical School, 1918, served during World War I, died in the Alexian Brothers Hospital March 5, aged 64, of myocardial infarction and coronary disease

Alan Edward O'Donnell, Providence, R. I , Jefferson Medical College of Philadelphia 1930, member of the American Medical Association, affiliated with the Charles V Chapin and Rhode Island hospitals, died in the Jane Brown Memorial Hospital March 3, aged 45, of carcinoma of the tongue with metastases

Adrian August Plaut, Chicago, Loyola University School of Medicine, Chicago, 1925, member of the American Medical Association, served during World Wars I and II, died in Jackson Park Hospital March 4, aged 51, of acute coronary occlusion

Thomas Riffel Purcell, Clearwater, Fla , University of Arkansas School of Medicine, Little Rock, 1938, member of the American Medical Association, served during World War II, died in Pahokee, January 14, aged 44, of multiple injuries received in an airplane crash

Robert James Remmer, Utica, N Y , Syracuse University College of Medicine, 1946; interned at the Rochester (N Y) General Hospital, served during World War II, died in Memorial Hospital in February, aged 27, of leukemia

Albert Jay Roberts ⊕ Ottawa, Ill , Northwestern University Medical School, Chicago, 1897, an Associate Fellow of the American Medical Association, member of the American College of Chest Physicians served during World War I, county coroner, affiliated with Ryburn Memorial Hospital, in 1938 resigned as medical director of the La Salle County Tuberculosis Sanatorium, a position he had held since the institution was founded in 1919; died February 25, aged 76, of coronary occlusion

Frank Horatio Russell, Kohler, Wis , Northwestern University Medical School, Chicago, 1902, formerly health commissioner of West Allis, served during World War I, died in Tomah December 31, aged 76, of cerebral arteriosclerosis

Jane Downes Kelly Sabine ⊕ Boston, Northwestern University Woman's Medical School, Chicago, 1894, fellow of the American College of Surgeons, affiliated with New England Hospital for Women and Children for many years, received the honorary degree of Sc.D from Smith College, Northampton, Mass, in 1938 on the occasion of the fiftieth anniversary of her class, died February 28, aged 86, of metastatic carcinoma

Edward Henry Schaefer, Sedalia, Mo , University Medical College of Kansas City, 1892 member of the American Medical Association, served on the staff of the John H Bothwell Memorial Hospital, died February 5, aged 82, of myocarditis

Carlos Adam Shaw, Waitsfield, Vt., University of Vermont College of Medicine, Burlington, 1899, died February 16 aged 79, of bronchopneumonia.

Clark Monroe Smith ⊕ Plumville, Pa , Ohio Medical University Columbus, 1903, served on the staffs of the Adrian Hospital in Punxsutawney and the Indiana (Pa) Hospital, where he died February 5, aged 71, of coronary occlusion

Leon Sochat, Chicago, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois 1911, died February 27, aged 64, of acute coronary thrombosis

Laban Phelps Stanley ⊕ South Charleston, W Va , University of Louisville (Ky) School of Medicine, 1928, member of the American Association of Industrial Physicians and Surgeons, plant physician for Carbide and Carbon Chemicals Corporation, died in Huntington March 2, aged 47, of heart disease.

Oliver P Stoey, Newville, Pa., Jefferson Medical College of Philadelphia, 1881, member of the American Medical Association, died February 6, aged 93, of bronchopneumonia.

Raymond Ward Stoner, Checotah, Okla , University of Oklahoma School of Medicine, Oklahoma City, 1930, member of the American Medical Association, served during World War II, past president of the McIntosh County Medical Society, died December 30, aged 50, of cerebral hemorrhage.

Harry Streett, Leroy, Ohio, Baltimore Medical College, 1894, member of the American Medical Association, veteran of the Spanish-American War member of the board and president of the Lodi (Ohio) Hospital, where he died February 14, aged 78, of coronary thrombosis with myocardial infarction.

Robert Cowan Thomas, Greenfield, Mo , Tennessee Medical College, Knoxville, 1894 died in Springfield February 7 aged 80

Alfred Percival Thompson, Quincy, Mass , Boston University School of Medicine, 1897, member of the American Medical Association, for many years on the staff of Quincy City Hospital, died February 26, aged 78, of arteriosclerotic heart disease.

Herbert Franklin Thurston ⊕ Indianapolis, Rush Medical College, Chicago 1924, associate in gynecology Indiana University School of Medicine fellow of the American College of Surgeons member of the board of directors of the Franklin (Ind) College, which in 1945 awarded him an honorary Doctor of Science degree, affiliated with St Vincent's Hospital, General Hospital and Methodist Hospital, where he died February 8, aged 57

Arthur Dice Traul, Akron, Ohio, Starling Medical College, Columbus, 1903, member of the American Medical Association, served on the staff of the People's Hospital, died in City Hospital February 25, aged 71, of carcinoma of the esophagus

Foreign Letters

PARIS

(From a Regular Correspondent)

Feb 15, 1950

Association of Streptomycin with the Methylic Tuberculous Antigen

L Negre (Pasteur Institute) prepared rabbits for three weeks with increasing (2, 3, 4 cc) biweekly intravenous injections of methylic tuberculous antigen corresponding to 1 cg of dry bacilli per cubic centimeter and infected them afterward by the same route with virulent tubercule bacilli One month after inoculation, these animals were treated with a therapeutically weak dose of streptomycin (10 mg per 2 Kg of body weight), 10 weeks later, the author noted that resistance had greatly increased in them and that streptomycin had completed the preventive action of the antigen In another experiment, the author infected guinea pigs with a strain of human tubercule bacilli and rabbits with bovine bacilli, eight days later, the former were given subcutaneous daily injections of 2 mg of streptomycin in two doses and biweekly injections of 0 25 cc of pure antigen, rabbits were treated with daily injections of 10 mg of the antibiotic and biweekly injections of 0 5 cc of methylic antigen In each species three groups were formed one to which the same dose of streptomycin only was given, one which received the antigen only and one group of controls They were killed two months after the inoculation The tubercles seen in the streptomycin-treated guinea pigs were fewer (one third) than in those treated with the antibiotic and antigen In the rabbits there were 57 lesions in those treated with the antigen only, 43 in those treated with streptomycin only and only 15 in those treated with both products, as against 100 lesions in control animals L Negre presented the first results of his researches on Nov 29 1949 to the National Academy of Medicine.

Cardiodynamometry

This method is based on the plethysmographic measurement of cardiac flow in the superior limb by the cardiodynamometer A Pruche, after having determined on more than 1,000 cases the normal oscillations of the right and left cardiac dynamic coefficients, has been able to determine the pathologic values of these coefficients The examination comprises three explorations, the patient being in the dorsal decubitus position immediately before, immediately afterward and three minutes after a standard effort consisting of 50 deep flexions of the inferior limbs The author has often noted fatigue three minutes after the effort, whereas in severer deficiency it is, first, the reaction immediately following the effort which is deficient and afterward the reaction three minutes after the effort In his report to the French Society of Cardiology of Dec 18, 1949, the author stressed that the determination of these coefficients permits determination of the indications and contraindications of the cardiac agents, particularly the digitaloids, and of the aptitude for sports and their influence on the myocardium

Apexopiezography

M Jacquet has perfected a method, apexopiezography, of registering shocks by piezographic apparatus He has obtained tracings exploring the left ventricle superimposable on those obtained for the right ventricle by means of venous catheterism and the introduction of a catheter into this cavity It permits also calculation of the duration of the isometric period of the ventricular systole and chronologic cross checking with electrocardiography and vectocardiography Apexopiezography, synchronized with, say, the phonocardiogram, gives more accurately than the electrocardiogram the timing of the sounds and murmurs M Jacquet presented this method on Oct 16, 1949 to the French Society of Cardiology

Statidensigraphy

This is a photoelectric process in which the quantity of roentgen rays passing through a subject in inspiration and in expiration is recorded by a photoelectric cell provided with a radioscopic screen This method gives the value of the local density of the lung in the static respiratory state and has been called "statidensigraphy" by Marchal (Paris), who evolved it The patient is placed behind the radioscopic screen, takes a deep respiration and then remains in apnea, the photoelectric receiver is centered on the pulmonary area to be inspected, and a curve is registered on a *film* The same operation is made on the patient in expiration and apnea, and from the comparison of both curves the local respiratory capacity of the parenchyma penetrated by the roentgen rays is deduced He also presented a method permitting the simultaneous registering of pulsation and the respiratory value of the pulmonary parenchyma

LONDON

(From a Regular Correspondent)

March 21, 1950

Snooping on Chemists Under the National Health Service

This difficult and longstanding problem was again brought to the fore by the appearance in the *Yorkshire Post* of January 23 of a letter by Dr O B Appleyard, a physician of Ilkley This letter, which was referred to in the *Chicago Tribune* of February 1, said

"May I protest, as a law-abiding citizen and a doctor, against an attempt made by the Minister of Health to use my patients and myself in a scheme for snooping upon the chemists?

"The Minister of Health has directed the West Riding Executive Council to ask me for a panel prescription, undated and in triplicate and made out in the name of one of my panel patients This prescription is to be used 'for the testing of drugs and appliances supplied by the contractors included in the Council's Pharmaceutical List'"

The doctor is therefore expected, unbeknown to his patients, to write their names over his own signature upon truthless documents, to be used in the furtive misrepresentations of the agent provocateur

"If I had wished to 'join the ranks of the well-paid men' in this Socialist demi-paradise, I should have become an informer, spiv or snooper—not a doctor As it is, Mr Bevan s creatures must sidle about their business without my assistance and without employing my name or the names of my patients

"The whole contrivance is approved by the present Minister of Health My profession should thank the Minister for the warning that they must expect similar devices to be used against them"

NOTHING NEW

It is not realized by all family physicians that there is nothing new in this matter It existed for many years under the old National Health Insurance scheme It has, however, been raised before—since the National Health Service came into operation (July 5, 1948) and usually by doctors who were not working in the old National Health Insurance practice and who have been approached for the first time

WHAT THE DOCTORS HAVE SIGNED

Included in the Terms of Service for Medical Practitioners under the National Health Service and which each doctor has signed is the following item

"Prescription for Tests

(11) A practitioner shall comply with any reasonable request by the Council to furnish orders on a form provided by the

Council for drugs and prescribed appliances for the purposes of any scheme for testing drugs and appliances made under the regulations"

ANNOTATION IN THE BRITISH MEDICAL JOURNAL

In the *British Medical Journal* (Dec. 3 1949 page 1283) it is pointed out 'Regulation 26 of the General Medical and Pharmaceutical Services Regulations 1948 imposes on executive councils the duty of testing drugs and appliances but the way in which each executive council performs its duty is set out in a scheme prepared by it and approved by the Minister of Health The schemes of most and perhaps all, executive councils probably accord in this respect with a model scheme prepared by the Ministry where these instructions were given When a test is to be carried out, the clerk shall arrange for an official prescription to be written in duplicate and to be signed by a practitioner on the council s medical list, and the practitioner shall not be informed of the name of the chemist to whom the prescription is to be presented by an agent of the council who shall be authorized in writing for this purpose The agent then tells the chemist the true purpose of the prescription and the drugs are sent off to be tested'

ALTERNATIVES PREFERRED

The annotation goes on to suggest that the public as well as doctors and chemists would probably prefer to try some alternative to the present arrangements The General Medical Services Committee recently considered the matter but decided in the absence of a workable alternative arrangement not to recommend any alteration in the existing arrangements The chemists agreed to the existing arrangements and do not raise any strong objection to them

LOCAL BRITISH MEDICAL ASSOCIATION COMMENT

Dr J H E. Moore, Secretary of the Leeds Division of the British Medical Association when invited to comment on these tes s pointed out that they had been in operation for over 20 years and that it was part of the medical practitioner s contract of service to give such prescriptions He is quoted by the *Yorkshire Post* as saying Although the doctor does not like giving test prescriptions it is felt that the chemist must be checked and this is cons dered to be the only way this can be done. During the war these tests were suspended As a result, no doubt, a number of practitioners are unaware of this requirement, and it has come as a shock to them to find that it is one of their obligations

The request is not made often to any one doctor—perhaps only once a year Certain irregularities are disclosed occasionally through the tests Some cases have come to light arising from non-supervision where an assistant has been left in charge of a shop Prescriptions are usually written to ensure that even if there is a small percentage of error the consequences will not be serious

TWO LONDON OBJECTIONS

The London *Evening Standard* reported, Two London doctors have been told they were wrong in objecting to giving test prescriptions for snooping on chemists The Medical Benefit Committee, in their report to the London Executive Council of the National Health Service say With the exception of the two practitioners in question all doctors who have been asked to supply scripts have responded. The two practitioners hold a mistaken view of the position. The request of the council is not made with the object of setting a trap for the chemist, but only to confirm that he is dispensing in accordance with his agreement. Moreover the respective terms of service have been accepted by both doctors and chemists We have directed that the two practitioners in question should be notified that the council have no power to agree to a practitioner disregarding the terms of service and that they should, therefore, provide the prescriptions for which they have been asked. "

ISRAEL

(From a Regular Correspondent)

Jerusalem March 1, 1950

Health in Israel

All the statistical sources from which it is possible to judge health conditions in the country are not yet available for the period since the declaration of the State of Israel The fact that these statistics are calculated on a yearly basis renders most of them useless and a confusing picture is provided for 1948, during one half (May-December) the State was in existence, while 1949 statistics are incomplete. Furthermore, the general mortality rate would be unlikely to give a true picture of health conditions owing to the fact that it might include a certain number of war victims The most sensitive indicator of the health of a country the infant mortality rate, moreover, suffers from the fact that it is usually calculated per 1,000 births —a procedure clearly impossible owing to the large influx of infants born abroad who may however die here during their first year of life Hospital statistics which have been compiled on a tentative scale since 1943 but are now being reorganized are not yet available. The same shortcomings occur in the yearly statistics on infectious diseases What can be given are monthly absolute numbers of infant deaths and the absolute incidence of infectious diseases for the period of the existence of the State of Israel in addition to some data on hospitalization and Sick Fund activities

Table 1—*Infant Mortality Rates for Jews of Palestine*

Year	Rate per 1 000 Births	Number of Infant Deaths
1925	132.9	
1930.	65.8	
1935	64.2	
1940	59 1	
1941..	55 6	
1942	58 0	
1943	44 1	
1944	36.1	
1945	35.8	
1946	31.5	
1947	29 2	542
1948.	30 0	620

Table 2—*Number of Infant Deaths 1948-1949*

Month 1948	Number of Deaths	Month 1948	Number of Deaths	Month 1949	Number of Deaths
January	44	July ..	74	January	85
February	45	August	50	February	91
March	49	September	40	March	79
April	41	October	53	April	83
May	42	November	57	May	110
June	63	December	62	June	108
Jan June	284	Jan Dec.	620	Jan June	556

Tables 1 and 2 show that infant mortality figures have risen in absolute number during the months under survey The monthly figures as they appear in 1948 total 620, which corresponds to a rate of 36 per 1 000 births Even this rate is too high being calculated on births inside the country only Since May 1948 the Jewish population has increased by about 50 per cent and there is also a considerable increase in the number of births for the first half of 1949

There is, in addition a certain number of infants who were born before their parents reached the country but who died during their first year of life. One would, therefore have to add to the number of births in the country, as a basis for the calculation of the infant mortality rate, a certain number of births outside the country, the number of which can be given exactly but reaches several tho

INFECTIOUS DISEASES

For a correct interpretation of table 3, a few preliminary notes are indicated During the time of the Mandatory Regime, although notification of a number of infectious diseases was compulsory, the cooperation with the health authorities was poor The degree of reporting, moreover, varied from disease to disease and from one period to the other While for some of the so-called pestilential disease, such as plague, it was practically 100 per cent, it was about 75 per cent for typhoid, about 30 per cent for diphtheria and less than 1 per cent for pertussis and other "children's diseases" (These percentages are rough estimates made on the premise that the General Workers' Sick Fund covers about half the population and the occurrence of a disease in the population at large must be expected to be about twice that given in Sick Fund figures Averages are for the years 1945, 1946, 1947 and 1948) To improve the degree of reporting measures were taken to overcome the resistance of the general public and to insure cooperation of the medical profession The reorganized reporting service began to operate in May 1949 It should further be borne in mind that the population to which the figures refer has grown by 30 per cent during the period under survey and is practically doubled compared with earlier years

Table 3 shows that there has been no epidemic since May 1948 This is astonishing as on certain occasions conditions for the development of epidemics were favorable, e g, the siege of Jerusalem, with its lack of water during the hot season, lack of food for the population and crowding in airless and lightless shelters for more than a month, in a town where typhoid used to be endemic and in which only a few isolated cases occurred

An infection new to this country is the type of leptospirosis observed lately The few cases of leptospirosis which occurred previously had been of Leptospira bovis infection, while now the infective agent is another Leptospira, probably of the grippotyphosa group The disease is concentrated in the coastal plain Cases are comparatively mild, and there have been no more than 3 deaths in a total of 278 reported cases If one takes into account that a number of mild cases without jaundice do not come to the Health Offices' notice, the case fatality rate is less than 1 1 per cent None of the patients had had any contact with cattle Apparently the outbreak is due to an invasion of field mice and other rodents, as it occurred this year in the entire country on an unprecedented scale

With reference to malaria, the figures cannot be taken at their face value Although the notification scheme provides for a subdivision into new infections and relapses, the majority of cases still appear without any indication as to which group they belong to In table 3 they are, therefore, given together Although it is known that new infections have increased, probably because of the breakdown of antimalaria measures during the war, it is difficult to ascertain the exact degree of this increase It is, however, known that a large proportion of cases is of new immigrants from the Yemen who acquired the infection on their way from Yemen to the Aden Protectorate, from which place they proceeded to this country It is also this group that accounts for the comparatively large number of deaths due to starvation and hypoproteinemia, which prevails among them

Table 3—*Incidence of Selected Infectious Diseases*

Number of Cases Reported to the Government in the Second Half of 1948 and January November 1949

	1948						1949										
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov
Typhoid	85	62	46	51	29	14	6	4	14	6	21	53	76	118	112	114	78
Paratyphoid	44	44	21	24	22	15	10	9	15	6	10	46	42	45	45	60	88
Infectious hepatitis							20	15	25	10	35	20	46	154	176	173	163
Leptospirosis											3	3	22	29	48	61	11'
Diphtheria	57	59	165	205	258	176	101	45	44	31	45	55	62	139	153	228	227
Malaria																	
New cases *	7	18	27	82	61	8	2	2	2	15	110	236	213	141	141	376	351
Typhus	7	12	11	13	11	10	3	7	3		3	22	18	49	34	50	46
Poliomyelitis			2	1	2	3	1			2	9	8	20	16	7	15	24
Rabies	2	3				1			2			1				1	1

* Includes relapse and unspecified cases

HOSPITALIZATION

The number of beds available in general hospitals was 2,640 in January 1949[1] and had increased to approximately 4,000 by the end of September 1949 In this same period the 1,225 beds in mental hospitals had increased to 1,349, while hospitals for tuberculosis remained more or less unchanged The total hospital beds of 4,680 in January and 6,111 in September means an increase of 1,431 beds, which is approximately 30 per cent This is also the percentage by which the population has increased during the same period and the hospitalization situation on the whole has remained unchanged, while in January 1949 there were 5 8 beds per 1,000 population, there were 6 1 at the end of September A certain limited number has been added lately by the erection of camp hospitals on a small scale, but these as well as the general increase in the number of beds are counterbalanced by the higher morbidity rate among new immigrants and the greater urgency for hospitalization among them, because of the inadequacy of their temporary housing

SICK FUNDS

A certain indication of health conditions may be given by the number of visits of patients in clinics and home visits of physicians of the General Workers' Sick Fund, covering about half the population

It appears from table 4 that there was no considerable rise in morbidity in 1948 as a whole On the contrary, figures have actually come down somewhat, probably because during the phase of actual war and disturbances people did not seek medical advice in the same measure as in normal times

Table 4—*Number of Medical Contacts per 1,000 Membership in Sick Fund*

	1940	1945	1947	1948
Clinic visits	4 216	4,000	3,874	3,540 *
Home calls	701	587	523	486 *

* Estimated figure

Whether as a result of strict food rationing the health has deteriorated in 1949 will remain to be seen, since figures for that year are not yet available

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[1] Figures refer to the civilian population only

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners *Part II* Various medical schools April 24 25 *Parts I and II* Various locations June 19 21 Final date for accepting applications is May 19 Exec Sec Mr E S Elwood, 225 S 15th Street Philadelphia

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology *Written* Various locations. July 21 *Oral* Philadelphia April 23 27 Chicago Oct. 8 11 Sec Dr Curtiss B Hickcox 745 Fifth Ave New York 22

American Board of Dermatology and Syphilology *Oral* Washington April 14 16 Sec. Dr George M Lewis 66 E. 66th Street New York 21

American Board of Internal Medicine *Oral* San Francisco June 21 23 The oral examinations in the subspecialties will be held at the same time and places *Written* Oct 16 Final date for acceptance of applications is May 1 Asst. Sec. Dr William A. Werrell 1 West Main Street, Madison 3 Wis

American Board of Neurological Surgery *Oral* Chicago June 3 Applications no longer accepted Chicago Oct 1950 Final date for filing applications is April 30 Sec., Dr W J German 789 Howard Ave New Haven Conn

American Board of Obstetrics and Gynecology Inc. *Oral Part II* Atlantic City May 21 27 Sec. Dr Paul Titus 1015 Highland Bldg., Pittsburgh

American Board of Orthopaedic Surgery *Part I* New York April 21 22 Atlanta April 28 29 Indianapolis April 28-29 Denver May 5 6 Sec Dr Harold A Sofield 122 S Michigan Ave Chicago

American Board of Ophthalmology *Written* Various Centers January 1951 Final date for filing applications is July 1 1950 *Practical.* Boston May 22 26 Chicago Oct. 2 6 West Coast, Jan. 1951 Sec. Dr Edwin B Dunphy 56 Ivie Road Cape Cottage Maine

American Board of Otolaryngology *Oral* San Francisco May Chicago October Sec., Dr Dean M. Lierle University Hospital Iowa City

America Board of Pediatrics Cincinnati May 5 7 San Francisco June 30 July 2. Exec. Sec. Dr John McK Mitchell 6 Cushman Road Rosemont Pa

American Board of Physical Medicine and Rehabilitation *Oral and Written* Boston Aug 26-27 Final date for filing applications is April 1 Sec Dr Robert L. Bennett 30 N Michigan Ave Chicago.

American Board of Plastic Surgery *Oral* May June. Sec. Dr Louis T Byars 4647 Pershing Avenue St Louis Mo.

American Board of Preventive Medicine and Public Health *Written* Portland Ore May 28 *Oral* Portland Ore May 29 Sec. Dr E. L Stebbins 615 N Wolfe St Baltimore 5 Md

American Board of Proctology *Part I* San Francisco Dallas, Minneapolis and Philadelphia, May 13 Sec. Gen. Dr Louis A. Buie 102 110 Second Ave. S W Rochester Minn

American Board of Psychiatry and Neurology San Francisco June 23 24 Applications no longer accepted. Next examination December 1950 Final date for filing applications is Sept. 1

American Board of Radiology *Oral* Chicago week of June 18 Sec. Dr B R. Kirklin 102- 10 Second Ave., S W., Rochester Minn.

American Board of Surgery *Written* Various centers Oct 25 Final date for filing applications is *July 1* Sec., *Dr J Stewart Rodman* 225 South 15th Street Philadelphia

American Board of Urology Chicago Feb 10-14, 1951 Final date for filing applications is Sept. 1 1950 Sec. Dr Harry Culver 7935 Sunnyside Road Minneapolis 21

BOARDS OF MEDICAL EXAMINERS

Alabama *Examination* Montgomery June *27 29* Sec. Dr D G. Gill 519 Dexter Avenue, Montgomery

Arizona * *Examination and Reciprocity* Phoenix, April 18-19 and April 22 Sec. Dr J H Patterson 316 West McDowell Road Phoenix.

Arkansas * *Examination* Little Rock, June 8 9 Sec Dr Joe Verser Harrisburg Homeopathic Little Rock June and November Sec., Dr Carl S Bungart, 105 N 14th St. Fort Smith. *Eclectic* Little Rock June 8-9 Sec. Dr Clarence H Young 1415 Main Street, Little Rock

California *Examination Written* San Francisco June 19 *22* Los Angeles Aug 21 24 Sacramento, Oct. 16-19 *Examination Oral and Clinical for Foreign Medical School Graduates* San Francisco June 18 Los Angeles Aug 20 San Francisco Nov 12 *Reciprocity Oral Examination* San Francisco June 17 Los Angeles, Aug 19 San Francisco Nov 11 Sec. Dr Frederick N Scatena, 1020 N Street, Sacramento 14

Connecticut * *Examination* Hartford July 11 12 Sec. to the Board Dr Creighton Barker 160 St. Ronan St. New Haven. *Homeopathic* Derby July 11 12 Sec. Dr Donald A Davis 38 Elizabeth St. Derby

Delaware *Examination* Dover July 11 13 *Reciprocity* Dover July 20 Sec. Dr J S McDaniel, 229 S State St. Dover

District of Columbia *Examination* Washington May 8 9 Sec. Dr Daniel L Seckinger 4130 E Municipal Bldg Washington 1

Florida * Jacksonville June 25-27 Sec. Dr Frank D Gray 12 N Rosalind Avenue, Orlando

Georgia *Examination* Atlanta and Augusta June. *Endorsement.* Atlanta, June. Sec., Mr R. C. Coleman, 111 State Capitol, Atlanta 3

Hawaii *Examination* Honolulu July 10-13 Sec. Dr I. L. Tilden, 1020 Kapiolani St Honolulu.

Idaho Boise July 10 Sec. Mr Armand L. Bird 305 Sun Bldg Boise.

Indiana *Examination* Indianapolis June. Sec., Dr Paul R. Tindall, 1138 K of P Bldg Indianapolis.

Iowa * *Examination* Iowa City June 12 14 Sec., Dr M. A. Royal 506 Fleming Building Des Moines 19

Kansas Kansas City June 7 8 Sec. Dr J F Hassig 905 N 7th Street Kansas City

Kentucky *Examination.* Louisville, June 14-16 Sec. Dr Bruce Underwood 620 S 3rd Street, Louisville 2

Maine *Examination and Reciprocity* Augusta July 11 12 Sec. Dr Adam P Leighton 192 State St Portland.

Maryland *Examination* Baltimore, June 20-23 Sec. Dr Lewis P Gundry 1215 Cathedral Street, Baltimore 1 *Homeopathic* Baltimore June 20 21 Sec. Dr John A. Evans 612 W 40th St Baltimore.

Massachusetts *Examination* Boston July 11 14 Sec. Dr George L. Schadt Room 37 State House, Boston 33

Minnesota * Minneapolis April 18-20 Sec. Dr Julian F Dubois 230 Lowry Medical Arts Bldg St. Paul 2.

Missouri Examination St. Louis, May 31 June 2 and June 7 9 Exec. Sec. Mr John A Hailey Box 4 State Capitol Building St. Louis.

Nebraska * *Examination* Omaha, June 5 7 Director Bureau of Examining Boards Mr Oscar F Humble, 1009 State Capitol Building Lincoln 9

Nevada Carson City May 1 Sec. Dr George H. Ross, 112 Curry Street Carson City

New Hampshire Concord Sept. 13 Sec. Dr John Samuel Wheeler 107 State House Concord.

New Jersey *Examination* Trenton, June 20-23 Sec. Dr E. S. Hallinger 28 West State Street Trenton.

New York *Examination* Albany Buffalo New York and Syracuse, June 27 30 Sec. Dr Jacob L. Lochner Jr 23 S Pearl St Albany

North Carolina *Endorsement* Pinehurst May 1 *Written* Raleigh *June 19 22* *Endorsement* Raleigh *June 19* Sec., *Dr Ivan* Procter 226 Hillsboro Street Raleigh

North Dakota *Examination* Grand Forks July 5 7 *Reciprocity* Grand Forks July 8. Sec. Dr C. J Glaspel Grafton

Ohio *Examination* Columbus June 14-17 Sec. Dr H. M. Platter 21 W Broad St. Columbus 15

Oklahoma * *Examination.* Oklahoma City June 7-8 Sec., Dr Clinton Gallaher 813 Braniff Building Oklahoma City

Oregon **Endorsement* Portland April 28-29 *Written* Portland July Exec. Sec. Mr Howard I. Bobbitt, 609 Failing Building Portland 4

South Carolina *Examination* Columbia June 26 29 *Reciprocity* First Monday of each month. Sec. Dr N B Heyward, 1329 Blanding Street Columbia.

South Dakota * Sioux Falls, July 18 19 Sec. Dr C E. Sherwood 300 First National Bank Bldg Sioux Falls.

Texas * *Examination* Austin, June 19 21. Sec. Dr M. H. Crabb 1714 Medical Arts Bldg Fort Worth 2

Utah *Examination* Salt Lake City June. Dir., Dr Frank E. Lees 324 State Capitol Building Salt Lake City

Virginia *Examination.* Richmond June 23 24 *Endorsement* Richmond June 22 Sec. Dr K. D Graves, 631 First St. S W Roanoke.

Wisconsin * Milwaukee, July 11 13 Sec., Dr C. A. Dawson River Falls.

Wyoming *Examination* Cheyenne June 5 Sec Dr Franklin D Yoder Capitol Bldg Cheyenne.

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* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Arkansas *Examination.* Little Rock May 9 Sec. Mr L. E. Gebauer 1002 Donaghey Building Little Rock.

Connecticut *Examination* New Haven, June 10 Exec Asst. State Board of Healing Arts, M G Reynolds, 110 Whitney Ave New Haven.

District of Columbia Washington April 17 18 Sec., Dr Daniel L. Seckinger 4130 E. Municipal Building Washington.

Florida *Examination.* Gainesville June 3 Sec. Mr M W Emmel University of Florida Gainesville

Michigan *Examination* Detroit and Ann Arbor May 12 13 Sec. Miss Eloise LeBeau 101 N Walnut St., Lansing

Nebraska *Examination* Omaha, May *2 3* Director, Bureau of Examining Boards Mr Oscar F Humble 1009 State Capitol Bldg Lincoln.

Oregon Portland June 17 Sec Dr C D Byrne University of Oregon Eugene.

Rhode Island *Examination* Providence May 10 Administrator of Professional Regulation Mr Thomas B Casey 366 State Office Bldg Providence.

South Dakota Vermillion, June 2-3 Sec. Dr Gregg M. Evans, 310 E. 15th Street, Yankton.

Texas *Examination.* Austin, April 21 22. Sec., Brother Raphael Wilson, 306 Nalle Building Austin.

Medical Motion Pictures

FILM REVIEWS

The Medical Examination, Part I, Importance (TF8-1530) 16 mm, black and white *sound* showing time nineteen minutes Produced in 1949 by the United States Army Procurable on loan from the Army Surgeon of the Army area in which the request originates

This production is part 1 in a series of motion pictures on the medical examination Part 2 is entitled "History" and part 3, 'The Examination" The film explains the importance of the medical examination for military and civilian personnel The attitude of the examining doctor, the doctor-patient relationship, doctor-doctor relationship and doctor-administrator relationship are all important to the proper conduct of the medical examination and the maintenance of accurate records The examining doctor should bear in mind that strong points or defects uncovered must be considered in relation to the whole man and the job the man is to do Since the war numerous medical examination forms and standards have been consolidated and simplified so that at the present time the same standards and forms are used for the Army, Air Forces, Navy, Veterans Administration and Public Health Service wherever possible The message could have been presented much more dramatically and effectively It could also be condensed to advantage

This film is intended for information and guidance of medical doctors in government service—military and civilian—and other medical examining personnel, medical schools and civilian professional medical personnel medical administrators and placement personnel The photography and narration are excellent

Splenectomy for Splenomegaly 16 mm color silent 360 feet showing time fifteen minutes Prepared in 1949 by Raymond W McNealy, M D Chief Surgeon Wesley Memorial Hospital, Associate Professor of Surgery Northwestern University Medical School Chicago Produced by and procurable on rental or purchase from Mervin W La Rue, Inc., 159 East Chicago Avenue, Chicago 11

This film shows the approach and technic of splenectomy for an enlarged spleen A left subcostal incision is used which gives adequate exposure The method of delivering the spleen from the left upper abdominal quadrant and the demonstration of a large accessory spleen in the hilus of the spleen is fairly well shown Closure of the wound is made with a running suture of surgical gut for the peritoneum and interrupted suture of fine wire for the fascia

Neither the history nor the indication for the splenectomy is given The anatomy involved in a splenectomy is not too well demonstrated The surgical technic is good

This motion picture can be recommended as an adjunct to a lecture on splenectomy and also for demonstrating the technic of splenectomy to medical students, interns, residents and surgeons The photography is excellent

Cholecystojejunostomy 16 mm color silent 400 feet showing time fifteen minutes Prepared in 1949 and procurable on loan or purchase from Phillip Thorek M D 25 East Washington Street, Chicago 2

This motion picture shows the technic of a cholecystojejunostomy which is performed in a 62 year old man for an inoperable carcinoma of the head of the pancreas A brief history is presented The technic for performing the anastomosis between the distended gallbladder and the upper jejunum is well shown The anastomosis is made antecolic and with interrupted cotton sutures throughout Such a procedure is applicable as a palliative procedure for inoperable carcinoma with jaundice or as the first stage of a pancreaticoduodenectomy The patient shown had a small metastatic nodule in the left lobe of the liver, which is removed for microscopic study The technic of liver biopsy is also shown

The technic is excellent and the pathology is well demonstrated The film can be recommended to demonstrate technic to medical students, interns, residents and surgeons It can also be recommended as an adjunct to a lecture on carcinoma of the pancreas The photography is satisfactory

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Nurses Right to Recover Workmen's Compensation for Tuberculosis Incurred During Employment at Tuberculosis Hospital—The claimant filed suit for an award of compensation under the workmen's compensation act for personal injury incurred while she was a nurse employed at the Belmont Hospital, a tuberculosis hospital From an award in favor of the employee, which was affirmed by the reviewing board, the hospital appealed to the Supreme Judicial Court of Massachusetts

The employee commenced working for the Belmont Hospital on May 7, 1945, and at that time roentgenograms disclosed no evidence of tuberculosis Roentgenograms made the following July, the following December and Jan 9, 1946 were also negative for tuberculosis Subsequently the claimant felt tired and run down and terminated her employment with the hospital and went to work for another employer On Jan 8, 1947 she was referred to the Belmont Hospital by her employer for another roentgenogram, which revealed an active tubercular infection of the left lung She was admitted to the hospital as a patient about two weeks later with a diagnosis of far advanced pulmonary tuberculosis During the time of her employment at the hospital she worked eight hours a day, most of the time in a so-called positive ward She attended to the patients, collected sputum boxes, wiped off bed stands with disinfectant, made the beds, bathed patients who required special care, brought in and collected trays of food and did whatever other work was required At times her face and clothing would be sprayed by the coughing of the patients The physician who was medical director at the hospital during the time the employee worked there and who later saw her as a private patient in May 1947 testified that in his opinion the employee contracted tuberculosis while employed at the Belmont Hospital, that she contracted it through her contact with "wide open cases of tuberculosis", that the exposure in the present case which was responsible for the employee's "infection with tuberculosis" was in "caring for the patient himself," meaning "waiting on the patient, bringing the patient his food, making the patient's bed, giving the patient a bath, emptying his sputum box and anything that brings the nurse into contact with the patient," and that "it is his opinion that it is an occupational disease—that there is a hazard peculiar to tuberculosis hospitals"

The principal question for decision, said the Supreme Judicial Court, is whether the disease of tuberculosis constitutes a personal injury under the Massachusetts workmen's compensation act, which provides, in part "'Personal injury' includes infectious or contagious diseases if the nature of the employment is such that the hazard of contracting such diseases by an employee is inherent in the employment" When, because of the nature of the employment, a possibility exists that an employee may contract an infectious or contagious disease, it becomes a question of fact, said the Supreme Judicial Court, whether the likelihood of infection or contagion is so essentially characteristic of the employment as to warrant a finding that the danger is inherent therein In our opinion, the court concluded, the danger of acquiring tuberculosis germs in a hospital while there employed in nursing positive cases of tuberculosis could be found to be a hazard inherent in the employment The finding of the board that the employee sustained a personal injury under the workmen's compensation act, said the court, was therefore justified, and the ruling of the board granting an award of compensation to the employee was accordingly affirmed —*Perron's Case, 88 N E (2d) 637 (Mass, 1949)*

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in Continental United States and Canada for a period of three days. Three journals may be borrowed at a time Periodicals are available from 1939 to date Requests for issues of earlier date cannot be filled Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested) Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order Reprints as a rule are the property of authors and can be obtained for permanent possession only from them

Titles marked with an asterisk (*) are abstracted below

Alabama State Medical Assn. Journal, Montgomery

19 125-156 (Nov) 1949

Admission to Medical College of Alabama S Graves —p 125
Portal Hypertension Its Surgical Management. W F Nickel —p 128
Treatment of Migraine with Cafergone. L. L. Friedman.—p. 137

19 157-188 (Dec.) 1949

Saddle Block Anesthesia in Obstetrics. C L. Buerger Jr —p 157
Preventive Mental Hygiene in Alabama C. J Gamble —p 160
Surgery of Colon with Special Reference to End to End Anastomosis E. Drennen and S A Kahn —p 163
Chloromycetin Therapy in Rocky Mountain Spotted Fever Report of 2 Cases. E. H. Edwards W H Irwin and H L. Holley —p 165

American Journal of Diseases of Children, Chicago

78 821-984 (Dec.) 1949

End Results in Treatment of Congenital Hypothyroidism Follow Up Study of Physical Mental and Behavioral Development L. S Radwin J P Michelson A. B Berman and B Kramer —p 821
*Measles Encephalitis Study of 50 Cases. S Sawchuk A. C. LaBoccetta A. Tornay and others —p. 844
Febrile Convulsions in Childhood Clinical and Electroencephalographic Study M A Lennox.—p 868
Acute Respiratory Disorders Among Newborn Infants in Obstetric Nurseries Experience in New York City 1940 1948 H Abramson. —p 883
Hypertrophy of Colliculus Seminalis in Childhood Report of 18 Cases S H Johnson III and W C Price —p 892
Comparison of Stability of Reduced Ascorbic Acid in Raw and Pasteurized Milk. A. D Holmes —p 899
Gelatinous Edema Pathognomonic Sign in Mumps G Heller —p 903

Measles Encephalitis.—Sawchuk and associates state that among the 13,037 cases of measles reported to the Philadelphia Health Department during the 1946 epidemic there were 14 cases of measles encephalitis, a ratio of 1 to 1 000 The last 50 cases of measles encephalitis, including the 14 of 1946, treated at the Philadelphia Hospital for Contagious Diseases were analyzed Sixteen of the 50 patients died, a mortality rate of 32 per cent Many of the patients had complications in addition to the encephalitis, 18 had pneumonia. Spinal fluid studies indicated that a low cell count (less than 50 cells) in measles encephalitis indicates a grave prognosis. Dehydration therapy consisted in limitation of fluids by mouth and the administration of hypertonic dextrose solution intravenously, hypertonic magnesium sulfate enemas and concentrated human plasma intravenously Prophylactic chemotherapy, usually penicillin, was instituted early Results of dehydration therapy when compared with those of nondehydrating therapy present a small difference in the percentage of mortality which is not statistically significant. Dehydration therapy seemed in some instances to prevent further involvement of the brain. Neurologic and psychologic examinations were made on 19 of the 34 surviving patients Only 2 of the 19 appeared normal The greatest number of neuromuscular disorders involved the extremities, most of the others involved the cranial nerves Four of the mentally defective patients had electroencephalograms made, 3 of which were interpreted as abnormal Nine patients with central nervous system disease complicating measles came to autopsy The gross picture of measles encephalitis was suggested by edema, engorgement of the superficial meningeal vessels and prominence of the smaller vessels in the white matter In an occasional case perivascular staining indicated focal hemorrhages The brain was not heavier than normal, but the convolutions were flattened as a result of edema A cerebellar herniation cone may be present and may account for central cardiorespiratory failure The changes are not specific, as they may be seen in any of the encephalitides

Am. J Syphilis, Gonorrhea and Ven. Dis , St. Louis

33 509-628 (Nov) 1949

Effect of Chloramphenicol in Early Syphilis R. C. V Robinson L. M Fox and R C. Duvall —p 509
Penicillin in Oil with Aluminum Monostearate Its Effect on Prolonging Blood Concentrations of Penicillin and Preliminary Report of Its Use in Treatment of Syphilis S R Taggart, F D Hendricks V L Chandler and others —p 515
Experiences with Single and Multiple Treatment Schedules of Early Syphilis with Procaine Penicillin in Oil and Aluminum Monostearate. E W Thomas C R Rein and D K. Kitchen —p 523
*Neurosyphilis III Evaluation After Three Years of Treatment with Penicillin Alone and with Combination of Penicillin and Malaria. A C Curtis, W T Kruse and D H. Norton —p 527
*Effect of Five Years of Penicillin Alone on Neurosyphilis Including Some Comparisons with Prepenicillin Methods J H Stokes M S Falk, G D Gammon and others —p 537
Penicillin Therapy in Asymptomatic Neurosyphilis Comparison of Effects of Amorphous Penicillin Penicillin in Oil and Wax and Crystalline Penicillin G F T Nichols Jr and A Heyman —p 561
Penicillin Failures in Neurosyphilis B Dattner —p 571
New Threshold in Venereal Disease Control. J R. Heller Jr —p 576
Frequency of Discovery of Syphilis in Upstate New York Between 1936 and 1943 W H Haenszel and J H Lade —p 579
Use of Cardiolipin Lecithin in Preparation of Antigen for Hinton Test. W A Hinton G O Stuart and J F Grant.—p 587
Oral Aureomycin in Therapy of Granuloma Inguinale. R B Greenblatt V S Wammock R. M West and others —p 593

Neurosyphilis Treatment with Penicillin and Malaria.—Curtis and his co-workers report 602 patients with various types of neurosyphilis who were treated with penicillin or penicillin plus malaria since 1944 It was possible to follow 380 of these patients for one to more than three years after a single course of treatment. The clinical failure rate was found to be 6 per cent with either type of therapy Patients with various types of syphilis of the central nervous system, including dementia paralytica, respond equally as well to penicillin alone as to penicillin plus malaria. This response is shown in both clinical and spinal fluid improvement

Effect of Penicillin Alone on Neurosyphilis—Stokes and his collaborators say that the Penicillin-Syphilis Panel at the University of Pennsylvania has been using penicillin alone in the treatment of neurosyphilis The incidence of normal or near normal spinal fluid values has been held or slightly improved in 1948 It ranges from slightly over half of the cases of dementia paralytica to four fifths in the tabetic form of dementia paralytica and asymptomatic neurosyphilis Meningovascular neurosyphilis showed slightly poorer long-term spinal fluid results than the other types For cases of relapse or slow response the authors recommend retreatment with total doses of about 10 million units in two hour, round-the clock hospitalization sessions at 80,000 to 100 000 units per injection of crystalline penicillin G There is hope for arrest by penicillin in any phase of neurosyphilis including dementia paralytica up to five years' observation Serologic cures without clinical improvement and the reverse may be obtained Repeated courses of penicillin may produce improvement with prolonged normality of the spinal fluid and five year arrest of progressive and relapsing primary optic atrophy in the tabetic form of dementia paralytica. Even small doses of penicillin occasionally effect prolonged relief in tabetic pain A comparison of round-the-clock aqueous penicillin G with penicillin in oil and beeswax at 600,000 units once daily in a small series of patients with asymptomatic neurosyphilis (66 cases) at a total dosage level of 4 8 million units showed practically no difference in spinal fluid response in one hundred and twenty days A pilot study of prepenicillin therapy of neurosyphilis in 51 patients is reviewed as background for interpreting the effects of penicillin therapy This study suggests that treatment with arsphenamine and bismuth compounds alone may be effective, that without malaria but with tryparsamide and typhoid vaccine (and notably the former) normal and near normal spinal fluid values were obtained in 80 per cent of the patients in an observation period of two to twenty years In this pilot study more than one-half the patients who achieved a normal or nearly normal fluid did so by the second year

Anesthesiology, New York

10 663-790 (Nov) 1949 **Partial Index**

Brain and Symptomatology of Anoxias H E Himwich —p 663
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Hemiplegia Following Tonsillectomy —Zweighaft reports the case of a boy, aged 5 who was hospitalized for tonsillectomy and adenoidectomy On the day after the operation a flaccid hemiplegia and peripheral facial palsy were observed on the left side A provisional diagnosis of polioencephalitis was made, and subsequently several other diagnoses were suggested After four weeks in the hospital the child was discharged with a slight residual weakness in the left arm and left leg Continued improvement was evident two months after the operation The author suggests that a localized vascular accident was probably responsible for the hemiplegia in this patient He discusses the role of the carotid sinus and suggests the possibility of causing cerebral damage by elevating or lowering the blood pressure Undue pressure on a sponge in the tonsillar fossa might act either way The author advocates the use of oxygen rather than air to bring ether to the patient The literature suggests that anesthesia is responsible for a small percentage of the neurologic complications of tonsillectomy Induction of anesthesia for tonsillectomy should not be relegated to second rate anesthetists, tonsillectomy may be a minor operation but it certainly requires major anesthesia

Annals of Surgery, Philadelphia

130 985-1118 (Dec) 1949

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Limitations of Vagotomy in Treatment of Peptic Ulcer —Healy and Sauer present a follow-up analysis of 50 patients treated by transthoracic vagotomy, 41 for duodenal ulcer and 9 for marginal gastrojejunal ulcerations All had intractable pain, and 64 per cent also gave a history of one or more episodes of gastrointestinal bleeding The patients were operated on through the lower left transthoracic route, with or without rib resection In 3 patients there developed severe symptoms of obstruction following the vagotomy, and 1 of the 3 died One patient required gastric resection three weeks after vagotomy In 47 patients there was relief of symptoms, diminution of secretory volume and acidity but also a high incidence of gastric atony Symptomatic results were excellent in 9 patients, good in 18, fair in 6 and a failure in 17 There were 5 failures in the early postoperative period due to unrelenting atony, which necessitated additional surgical intervention In the remaining 12 failures there was a recurrence of preoperative symptoms Healing of the ulcer was noted on roentgen examination in 21 of the patients Nineteen showed either persistence or recurrence of the ulcer In the failures the relief of pain was temporary, lasting from three to twenty-four months Nine of the 17 failures required subsequent gastric resection or a gastro enterostomy In 3 of these patients marginal ulcers developed later Bleeding was noted in 11 patients To reconcile these poor results with the favorable reports of other observers it should be emphasized that they are frequently based on vagotomy combined with gastroenterostomy, which alone generally gives excellent early results According to the data presented here a patient subjected to vagotomy has one chance in five of securing complete relief, two chances in three of being benefited to some extent and one chance in three of failure, all within an average of eighteen months postoperatively For this rather dubious benefit he must accept a small mortality risk and the prospect that continued freedom from ulcer symptoms is by no means assured Half the time he must also endure persistent symptoms of gastric atony, which may be more disabling than the original ulcer The authors believe that vagotomy has not proved successful in a sufficient number of cases to justify its routine use.

Plastic Tubes in Reparative Surgery of Injuries to Arteries —Donovan describes investigations undertaken to determine how well plastic tubes bridge gaps in arteries Polyethylene tubes were used to bridge gaps in the arteries of dogs Pure polyethylene, like lucite,® is relatively well tolerated in the tissues surrounding the femoral artery of dogs and in the sub cutaneous tissues of dogs and rats The mediastinal tissues of dogs also showed slight to moderate reaction to pure polyethylene The material has a capacity similar to that of lucite® for delaying the in vitro coagulation of blood, being about twice that of glass and nearly as great as that of paraffin and collodion Polyethylene repels water relatively well and, like lucite,® follows Lampert's rule that the capacity of a surface for delaying coagulation is inversely proportional to its "wettability" Polyethylene tubes will permanently bridge gaps in the thoracic aorta of dogs Many of these anastomoses, however, are complicated by thrombosis, embolism and aortic rupture Anastomoses of the femoral arteries of dogs with polyethylene and lucite® tubes have average durations of patency of two and three days, respectively Lining the polyethylene tubes with silicone or saturating them with heparin preoperatively did not increase the average duration of patency A new instrument for retracting the walls of arteries facilitates the insertion of these artificial tubes Although the plastic tube anastomoses are inferior to intima coaptation technics for the avoidance of thrombosis, their gradual occlusion over a period of days stimulates collateral circulation and prevents the severe ischemia which follows arterial ligation In repairing battle injuries to arteries with plastic tubes, assurance of patency of the anastomoses beyond the period of post-traumatic edema would probably require supplementary anticoagulant therapy Although intravenously given anticoagulants are usually impractical in war wounds, a new method for the intra-arterial administration of heparin has shown promise and merits further study

Diaphragmatic Hernia with Complete Evisceration of Liver —Kleitsch and his associates report a man, aged 54, who was injured six and one-half years previously in an automobile accident A huge elliptic calculus was removed from the ureter in the course of an exploratory operation on the right kidney The operation was followed by what appeared to be atelectasis, but after further roentgenographic studies it proved to be a right diaphragmatic hernia A thoracotomy revealed the entire liver, the major portion of the transverse colon and the hepatic flexure of the colon occupying the right pleural space There was a central defect in the diaphragm, through which the organs had entered the pleural cavity The defect was approximately 10 cm. in diameter with a thick, rolled edge. It was impossible to return the liver into the abdomen through the existing defect An incision was made, extending the defect anterolaterally The transverse colon was then reduced The liver was replaced by first replacing the left lobe through the defect in the diaphragm and then gradually manipulating the right lobe beneath it. The defect was closed with interrupted, heavy nylon sutures under considerable tension Adequate inflation of the lung was obtained and the thoracotomy wound was closed The patient was ambulant on the fifth postoperative day Fluoroscopy of the chest five months later revealed an active right diaphragm with some fixation laterally but without evidence of herniation

Archives of Dermatology and Syphilology, Chicago
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Cutaneous Changes in Lupus Erythematosus Histopathologic Aspects with Special Reference to Vascular Changes W G McCreight and H Montgomery —p 1
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Chronic Lupus Erythematosus Report of Unusual Case with Concomitant Subcutaneous Edematous Nodes and Swellings Historical Review J L. Grund.—p 20
Theory of Pathogenesis of Ordinary Human Baldness T S Szasz and A. M Robertson —p 34
Penicillin in Treatment of Experimental Syphilis of Rabbits V Synergistic or Additive Activity of Penicillin Injected Intramuscularly with Sodium Iodide Administered Orally and Intravenously J A. Kolmer —p 49
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Archives of Internal Medicine, Chicago
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*Tussive Syncope Observations on Disease Formerly Called Laryngeal Epilepsy with Report of 2 Cases. W S McCann R. A Bruce F W Lovejoy Jr and others —p 845
*Aureomycin Treatment of Pneumococcic Pneumonia Clinical and Laboratory Studies on 33 Patients T M Gocke, H S Collins and M Finland.—p 857
*Aureomycin Therapy of Nonpneumococcic and Nontuberculous Bacterial Pulmonary Infections. H S Collins T M. Gocke and M Finland —p 875
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Motor Manifestations of Herpes Zoster Report of Case of Associated Permanent Paralysis of Phrenic Nerve S L Halpern and A H Covner —p 907
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Anemia Associated with Cirrhosis of Liver Study of 32 Cases Keh-Wei Huang and Herng Wen Wang —p 958
Development of Porphyria in Diabetes Mellitus Report of 3 Cases K. Sterling M Silver and H T Ricketts.—p 965
Multiple Myeloma with New Bone Formation P Kraimin C. J D Angio and A Smelin —p 976
Periarteritis Nodosa Study of Chronicity and Recovery with Report of 2 Cases. S P Klein —p 983
Coronary Heart Disease and Xanthoma Tuberosum Associated with Hereditary Hyperlipemia Study of 30 Affected Persons in Family R. M Alvord —p 1002

Tussive Syncope or Laryngeal Epilepsy—McCann and his associates cite a man aged 42, who experienced repeated episodes of syncope associated with coughing The Valsalva maneuver abruptly altered the hemodynamics of the pulmonary circulation by virtue of the increased intrathoracic pressure, which resulted in impaired cardiac output and cerebral anoxia. On several occasions this procedure precipitated a convulsive seizure. Extraordinarily high pressures in the right ventricle and fluoroscopic evidence of the trapping of blood within the pulmonary circulation were also observed during paroxysms of coughing The mechanism of these changes in pressure was believed to be identical with that of the Valsalva maneuver In another patient attempts to demonstrate syncope following cough failed, but the body build, the exaggerated respiratory variation of pressures in the right ventricle the increased residual air and the acute elevation of pressure in the right ventricle to 270 mm. with coughing were all features compatible with this syndrome. It was believed that observations during an acute paroxysm of coughing might confirm the diagnosis, as in the first case A third patient could not be studied by cardiac catheterization However, the association of syncopal attacks with coughing made possible the presumptive diagnosis of tussive syncope. The authors regard the term "tussive syncope" as more appropriate than "laryngeal epilepsy"

Aureomycin Treatment of Pneumococcic Pneumonia— Gocke and his associates evaluated the therapeutic effectiveness of aureomycin in various types of pneumonia and other acute respiratory infections Clinical and laboratory studies were made on 33 patients with pneumococcic pneumonia The patients satisfied the following criteria 1 The history and results of physical examination were consistent with a diagnosis of pneumococcic pneumonia. 2 All patients were acutely ill and febrile 3 No previous treatment with antiserums, sulfonamide drugs or antibiotics had been given. 4 Blood and sputum were obtained for cultures and pneumococci of specific types were isolated and identified from one or both of these sources Most of the patients received the aureomycin by mouth in doses varying from 1 Gm every four or six hours to 0 5 Gm. given at intervals of four, six or eight hours The total oral dose ranged from 5.5 to 46 5 Gm. given over a period ranging from two to fifteen days. Most of the patients received less than 20 Gm. and were treated for five days or less Parenteral therapy was used in 6 patients Two of these died after only fourteen hours of treatment with aureomycin There was a drop in temperature during the first two days after the administration of aureomycin was started in all 31 patients who recovered There were only 8 patients in whom fever persisted or recurred after the second day Improvement in the acute symptoms of pneumonia usually paralleled the drop in temperature. Clearing of the lungs was evident within six days after treatment was started in more than two thirds of the patients who recovered. Pneumococci were obtained from the pretreatment blood cultures in 11 patients, but only one of the blood cultures taken after treatment was positive. The bacteriologic observations with respect to the disappearance of pneumococci from the sputum appear to be even more impressive than the results of similar studies in patients treated with sulfonamide drugs or with penicillin In the 4 surviving patients who were treated with daily intravenous injections of aureomycin, the effects on the acute disease and on the bacteriologic observations were similar to those observed in the patients who received larger and more frequent doses by mouth. The authors conclude that the clinical and laboratory data indicate clearly that aureomycin given either orally or intravenously is highly effective in the treatment of pneumococcic pneumonia

Aureomycin in Nonpneumococcic and Nontuberculous Pulmonary Infections—Collins and his co-workers studied 2 groups of cases Group 1 included 13 patients with acute pneumonia in whom cultures of sputum yielded pathogenic bacteria other than pneumococci Most of these patients had an antecedent illness which was consistent with the diagnosis of clinical influenza Group 2 included 20 patients with infections that can be characterized as nontuberculous bronchopulmonary suppuration. Clinical results were good in the acute cases of group 1, in which only sensitive bacterial strains appeared to be involved. In the cases of group 2, the benefit derived from aureomycin appeared to depend largely on the offending organisms their susceptibility to aureomycin and the character of the pulmonary lesions The best effects were observed in cases in which aureomycin-susceptible organisms were primarily concerned. In patients in whom relatively resistant organisms appeared in predominant numbers, in whom there were extensive suppurative lesions that were not draining adequately or in whom there were more serious underlying lesions the effects of aureomycin therapy were slight or equivocal Benefit may be expected from aureomycin in a considerable proportion of cases of nontuberculous bronchopulmonary suppuration after other antimicrobial agents particularly sulfonamide drugs, penicillin and streptomycin, either have failed completely or have given only partial or slight relief The failure of organisms to develop resistance to aureomycin during treatment is an important feature in protracted infections The presence of other unhealed lesions or the improper drainage or absorption of suppurative foci, however, predispose to additional infections with insensitive organisms during treatment with aureomycin, just as they do during penicillin therapy Although chloramphenicol failed to bring about any additional improvement in the 4 cases of this group in which it was used after the aureomycin, no conclusions are justified concerning its effectiveness if it were to be used to initiate therapy in similar cases

Archives of Neurology and Psychiatry, Chicago

62 701-884 (Dec) 1949

Frontal Lobotomy and Electrical *Stimulation of Orbital* Surface of Frontal Lobes Effect on Respiration and on Blood Pressure in Man W P Chapman, R B Livingston and K E Livingston —p 701

Extinction Phenomenon in Hemiplegia M B Bender, M F Shapiro and A W Shappell —p *717*

Use of Language in Dreams in Analysis of Aphasic Deficits H Goldhamer —p *725*

Psychiatric Aspects of Vagotomy IV Phantom Ulcer Pain T S Szasz —p *728*

Projection of Dermatomes on Substantia Gelatinosa J Szentágothai and T Kiss —p *734*

Congenital Myasthenia in Siblings P M Levin —p *745*

Prognosis in Japanese B Encephalitis C D Aring —p *759*

Patterns of Increased Electrical Skin Resistance in Acute Human Poliomyelitis F M Brown and S R Bruesch —p *766*

•Arteriovenous Fistula (Aneurysm) of Great Cerebral Vein (of Galen) and Circle of Willis Report on 2 Patients Treated by Ligation E Boldrey and E R Miller —p *778*

Longevity in Multiple Sclerosis D Sciarra and S Carter —p *784*

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Palatal Myoclonus and Primary Nystagmus' Following Trauma Report of Case M B Jacobson and W I Gorman —p *798*

•Guillain Barre Syndrome Complicating Antirabies Inoculation H D McIntyre and H Krouse —p 802

Blood Chemistry of Schizophrenic Patients Before During and After Insulin Shock Therapy Preliminary Studies S P Gottfried and H H Willner —p 809

Arteriographic Study of Effect of Drugs on Intracranial Vessels in Patients with Chronic Headache Preliminary Report A P Friedman E Feiring, L M Davidoff and H H Merritt —p 818

•Neurofibromatosis (Von Recklinghausen's Disease of Nervous System) Analysis of Total Pathologic Picture B W Lichtenstein —p 822

Agenesis of Corpus Callosum Electroencephalographic Study J G Chusid C G de Gutierrez Mahoney and J S Chaffee —p 840

Spinal Subarachnoid Implantation Associated with Ependymoma H J Svien, E M Gates and J W Kernohan —p 847

Anticonvulsant Activities of Certain Thiazolidones and Hydantoins as Determined by Electric Shock Procedures in Cats Rats and Mice C R Ensor and G Chen —p 857

Arteriovenous Fistula of the Great Cerebral Vein and the Circle of Willis—Boldrey and Miller say that arteriovenous fistula or aneurysm connecting the great cerebral vein of Galen and the circle of Willis is apparently rare, only 6 examples having been described They report the condition in 2 living patients The first case concerned a child who was first examined at the age of 16 months because of enlargement of the head The veins of the face and scalp were dilated A loud bruit could be heard over the head A pulsating mass was palpable behind the right mastoid region This was removed, without effect on either the bruit or the vascular engorgement. Two months later there were symptoms suggesting a subarachnoid hemorrhage The patient was watched for three and a half months At the end of this time an angiogram of the right carotid artery showed a tremendous bulbous aneurysm of the great cerebral vein of Galen Ligation of the right common carotid artery was performed two days later, followed in two weeks by ligation of the right internal and external carotid arteries The papilledema disappeared after this ligation and the engorgement of the veins of the scalp was decreased The bruit was unaltered With the constant threat of another hemorrhage, the posterior communicating and posterior cerebral artery were exposed on the right side, and the latter was clipped with four tantalum clips just distal to the connection from the basilar artery The bruit disappeared immediately The development of the boy has been normal in the three years which have elapsed since this treatment In the second patient the bruit diminished and the engorgement disappeared following ligation of the right internal and external carotid arteries An attempt was made to expose the posterior cerebral artery but was abandoned because of intervening dilated and pulsating venous channels This patient has been followed for two years The authors believe that with greater attention to angiography this type of anomaly may be found more often than is currently apparent Vascular engorgement of vessels of the scalp in the presence of a pronounced and persisting bruit is sufficient justification for cerebral angiography If the lesion is approached sufficiently early, there appears to be hope for the successful interruption of the anomaly

Guillain-Barré Syndrome Complicating Antirabies Inoculation—McIntyre and Krouse report 4 patients in whom polyneuritis developed following antirabies vaccination Two patients had polyneuritis with facial diplegia, 1 had bilateral weakness of the lower facial muscles, although movements of the occipitofrontalis muscles were normal, and 1 did not present *facial weakness* Patients 1, 2 and possibly 3, fulfil the requirements for the diagnosis of the Guillain-Barre syndrome. Patients 1 and 2 cast doubt on a specific cause of the Guillain Barre syndrome, the symptom complex having been observed in polyneuritides of various origins The mechanism of facial diplegia may be mechanical, the paralysis developing when the facial nerves swell for any reason, since the bony facial canal has narrow limits for any increase in bulk of the nerve in its course through the canal

Neurofibromatosis Pathologic Picture—Lichtenstein describes several uncommon morbid anatomic features of neurofibromatosis (von Recklinghausen's disease of the nervous system) and presents a schema to serve as a guide to the understanding of the total pathologic picture and the analysis of future material The basic lesions are multiple foci of hyper plasia and neoplasia of the supportive or protective derivatives of the ectoderm The neuroglia, myelin, meninges, capsule cells and connective tissue of the cerebrospinal ganglions, the supportive tissue of the nerves and the protective and supportive tissue of the epidermis participate in the disease process The basic tissue is not exclusively of neural crest origin or of connective tissue origin, as would be indicated by certain discussions in the literature To the protective and supportive elements is frequently added a vascular component, which may occur as independent vascular lesions or as vascularized supportive lesions Hyperplasia and tumor formation of parenchymatous elements occur rarely and are chiefly in the form of chromaffin tumors of the adrenal glands and hyperplastic nerve bundles (neuromatosis) Neurofibromatosis is related to the other neurocutaneous disorders

Archives of Otolaryngology, Chicago

50 687-854 (Dec.) 1949

Active Immunization Against Secondary Bacterial Infections of Common Cold I Acquired Immunity in Mice Following Oral and Intra Abdominal Administration of Stock Polyvalent Bacterial Vaccines J A Kolmer —p 687

•Id II Production of Protective Antibodies in Human Adults by Oral Administration of Stock Polyvalent Bacterial Vaccines J A. Kolmer A Bondi Jr and C Schillinger —p 693

Sulfamylon® and Streptomycin in Treatment of Infections of Ear: Preliminary Report. K. L. Diehl and A G Morris.—p 700

Prevention of Motion Sickness by Intravenous Injection of Sodium Bicarbonate T Hasegawa.—p 708

Penicillin in Chronic Otitis Media W J Aagesen.—p 716

Management of Acute Laryngotracheobronchitis J R Simpson —p 724

Modern Management of Oroantral Fistula R. T Barton —p 732

Structure and Performance in Animal Language. G Kelemen —p 740

•*Allergy* as Cause of Nuchal Myalgia and Associated Headache. T G Randolph —p 745

Problem of So Called Congenital Atresia of Ear Histologic Report of New Case F Altmann —p 759

Glossopharyngeal Neuralgia Tic Douloureux of Ninth Cranial Nerve P N Pastore and J M Meredith —p 789

Intranasal Surgery of Maxillary Sinus. H M Goodyear —p 795

Ozena Evaluation of Surgical Treatment. M S Ersner and M H. Alexander —p 805

Treatment of Allergic and Vasomotor Rhinitis with Hesperidin Chalcone Sodium B W Saylor —p. 813

Modified Technic of Plastic Procedure in Radical Mastoidectomy: Report of Results in Case of Circumscribed Labyrinthitis and Periphlebitis of Lateral Sinus in Course of Chronic Purulent Otitis Media with Cholesteatoma W Dworetzky —p 821

Immunization Against Secondary Infections of the Common Cold—Kolmer and associates administered orally to 116 adults enteric-coated tablets of stock polyvalent vaccines *prepared* of the desiccated bacteria and their soluble products commonly involved in the production of the secondary bacterial infections of the common cold Placebo tablets were administered to 35 adults as controls After administration of the tablets mouse protection tests were conducted with the serums of both groups for antibodies against hemolytic streptococci, type I pneumococci and Klebsiella pneumoniae. The placebo tablets did not produce protective antibodies against any of the three challenging organisms The oral administration of tablets of the bacterial vaccines produced protective antibodies against hemolytic streptococci in 19 8 per cent, against type I pneumococci in 25 per cent and against K. pneumoniae in 19 8 per cent of the 116 adults when the serums were tested against 2 minimum lethal doses of the respective organisms The serums of some adults were found to contain natural protective antibodies against the three challenging organisms. These natural antibodies plus those produced by the vaccines accounted for the combined antibodies against hemolytic streptococci in approximately 31 per cent, against type I pneumococci in approximately 33.6 per cent and against K. pneumoniae in approximately 36.2 per cent of the 116 adults. It appears that the oral administration of tablets prepared of desiccated organisms and their soluble products may produce protective antibodies against hemolytic streptococci, type I pneumococci and K. pneumoniae in a statistically significant number of adults.

Allergy as Cause of Nuchal Myalgia.—Randolph says that myalgia of the posterior cervical muscles has been considered in the past under a profusion of descriptive terms. He cites 5 patients to illustrate the relation of posterior cervical myalgia to headache as an expression of an allergic reaction. Specific inhalants (house dust) and foods were incriminated as causative agents. No support could be demonstrated for the theory that such clinical symptoms are manifestations of "nervousness" or psychosomatic disturbances. The term "tension headache" is a misnomer. Involvement of the neck muscles is the most frequently encountered manifestation of allergy affecting the skeletal musculature, although the process may localize in various other muscles or give rise to more generalized muscular symptoms. Pulling, drawing, tightness and aching of the cervical muscles are some of the most usually encountered symptoms observed in the course of performing individual food tests for the specific diagnosis of food allergy. Technicians are trained to observe whether the patient stretches his neck as if his collar were too tight as telltale evidence of the onset of such nuchal symptoms. Simultaneously with extension and flexion of the neck and rotation of the head on the shoulders patients generally start to massage the nape of the neck. Such nuchal symptoms are usually associated with tenderness of the involved muscles; they may or may not develop into headache. The fact that these muscular symptoms may be reproduced repeatedly and at will in experimental circumstances and that such complaints may be relieved by avoidance of incriminated allergens are the basis of the thesis that such manifestations are of allergic origin.

Archives of Pathology, Chicago

49: 1-110 (Jan.) 1950

- *Acute Esophagitis in Infants. P. Gruenwald and M. R. Marsh.—p. 1.
- Pathology of Experimental Immersion Foot. N. B. Friedman, K. Lange and D. Weiner.—p. 21.
- Healing Incomplete Spontaneous Rupture of Aorta. B. Fisher and J. A. Salmon.—p. 27.
- Central Necrosis of Liver. H. F. Wallach and H. Popper.—p. 33.
- *Glomerulonephrosis: Morphologic Manifestation of Renal Cortical Ischemia in Toxic Oliguria and Lower Nephron Nephrosis. A. J. French.—p. 43.
- Congenital Glycogenic Tumors of Heart. L. A. Kidder.—p. 55.
- Diffuse Granulomatous Aortitis with Giant Cells Associated with Partial Rupture and Dissection of Aorta. G. C. McMillan.—p. 63.
- Adenomatoid Changes of Renal Glomerular Capsular Epithelium Associated with Adrenal Tumor. R. H. Chappell and J. R. Phillips.—p. 70.
- Choriocarcinoma: General Review with Analysis of 516 Cases. W. W. Park and J. C. Lees.—p. 73.

Acute Esophagitis in Infants.—The studies on esophagitis in infancy presented by Gruenwald and Marsh are based on 52 cases detected in a series of 310 autopsies. The authors divide their patients into 2 groups obtained during successive periods. The esophagus was opened and inspected in all cases; in many cases in the old series sections were not taken for microscopic examination. In the new series the esophagus was examined more carefully both grossly and microscopically, and the incidence of esophagitis was higher. Often the tentative diagnosis of esophagitis could be made at autopsy when the mucosa was greatly hyperemic and showed ulcers or had a dull sheen. Microscopic examination confirmed the diagnosis and also led to the discovery of additional cases. During the period in which the new series of cases was collected a cross section at the level of the larynx and a longitudinal section of the cardia and adjoining portion of the esophagus were taken at all autopsies on infants; additional sections were made of areas suspected to be inflamed. Thirty-three of the 52 infants with esophagitis died during the neonatal period, that is, during the first two weeks of life, and 13 of these 33 were considered premature. However, prematurity cannot be considered a causal factor of esophagitis, because a comparable series of neonatal infants dying without esophagitis contains a larger percentage of premature infants. The authors believe that the significance of esophagitis for the clinical course of the infant ranges from an unimportant accidental observation to the principal cause of death. Various possible causes are considered, and no single factor is found which might explain all cases. It is suggested that in many of the present cases esophagitis was a "shock lesion." In the neonatal group of patients shock may have been the result of various types of birth trauma, including asphyxia. Micro-organisms were demonstrated in tissue sections in half the cases. They were of different types and are believed to have been secondary invaders. Vomiting and hemorrhage occurred frequently in the patients with esophagitis; perforation into the right pleural cavity was encountered twice. An effort should be made to diagnose esophagitis in living patients not only because the lesion, if severe, should be treated but because it may be an indication of shock, which is difficult to recognize in infants.

Glomerulonephrosis, Cortical Ischemia in Toxic Oliguria and Lower Nephron Nephrosis.—French says that the minimal morphologic changes in the renal tubular epithelium in cases of so-called lower nephron nephrosis have not been considered sufficient to explain the oliguria or anuria accompanying this syndrome. Bell has emphasized the concept of glomerulonephrosis, as descriptive of the glomerular change in cases of eclampsia. French found similar glomerular changes in many cases of lower nephron nephrosis and verified their occurrence in 10 of 11 cases of eclampsia. It appeared to be essential to the explanation of oliguria and anuria in cases of lower nephron nephrosis that a glomerular lesion be demonstrated, since tubular change alone in the presence of normal renal blood flow and glomerular filtration rate would be associated with polyuria rather than with a reduction of urinary output. The author made a histologic study of the kidneys of 20 patients. This group did not include the patients with eclampsia to whom reference has been made. Both clinical and necropsy records were reviewed in an effort to exclude all who might have had primary or secondary renal disease from causes other than those which are considered provocative of the lower nephron syndrome. These studies show glomerulonephrosis to be the glomerular manifestation of renal ischemia in toxic oliguria or anuria and the so-called lower nephron nephrosis. This renal change is of common occurrence and is found in varying degrees of severity. Protein casts and gray staining with the hematoxylin and eosin method are significant morphologic observations. The state of the liver is related to this renal condition and it is suggested that the hyperglobulinosis present in advanced hepatic disease may be a contributing factor. The reversibility of the changes that occur in the glomeruli and tubules in glomerulonephrosis is attested to by the possibility that some patients may recover from eclampsia as well as from toxic oliguria or anuria.

Arizona Medicine, Phoenix

6: 1-76 (Dec.) 1949

- Treatment of Headache with Cafergone. M. J. Whitelaw.—p. 15.
- Cutaneous Manifestations of Internal Disorders. N. Kirsch.—p. 17.
- Recent Advances in Treatment of Common Skin Diseases. H. T. Behrman.—p. 22.
- Traumatic Diaphragmatic Hernia. D. W. Melick, J. M. Sobol and C. Armbruster.—p. 28.

Canadian Journal Public Health, Toronto

40: 447-482 (Nov.) 1949. Partial Index

- Influenza in Canada During 1949, Including Studies on Eskimos. C. E. van Rooyen, L. McClelland and E. K. Campbell.—p. 447.
- *Influenza Virus Epidemic at Victoria Island, N. W. T., Canada. F. P. Nagler, C. E. van Rooyen and J. H. Sturdy.—p. 457.
- Nomenclature and Interpretation of Results of Serologic Tests for Syphilis. E. L. Barton and W. G. Brown.—p. 466.

Influenza Epidemic Among Eskimos.—Nagler and his associates in reporting on an influenza epidemic that occurred among Eskimos in April 1949, state that the Eskimo population of the southern regions of Victoria Island, of Finlayson Island, Taylor Island, Admiralty Island and the northern parts of the

Kent Peninsula consisted at the time of the epidemic of about 90 persons, all of whom became infected (attack rate 100 per cent) Eighty-four natives became severely ill, and 6 showed only mild symptoms of the disease Eighteen Eskimos died in this epidemic (mortality rate 20 per cent), 16 of them before treatment could be given All age groups were affected, and deaths appeared to be fairly evenly distributed among persons between 6 months and 70 years of age The authors describe the contacts between the several groups of Eskimos that caused the spread of the epidemic There was an epidemic of a similar nature at Aklavik in 1946 A few Eskimos and some members of their families who were ill at this time had come in contact with the present outbreak at Cambridge Bay and escaped with mild symptoms The white population of Cambridge Bay consisted of about 50 men between the ages of 21 and 35 years Although most of them had been in close contact with the native population, only 3 became ill with headaches and sore throats *Influenza virus type A* was isolated from all throat washings of the Eskimo patients Convalescent serums of these patients contained a high titer of antibodies against the influenza virus strains FM 1 and PR 8 Influenza virus type A was isolated from the lung, liver, spleen and heart blood of 1 patient who died and the lung and bronchus of a second fatality

Connecticut State Medical Journal, Hartford

13 *1117-1204* (Dec) 1949

New Freedom of Choice in Anesthetic Agents H R Griffith —p 1119
Abdomino-Thoracic Approach in Treatment of Lesions of Upper Stomach and Lower Esophagus—Case Report V J Vinci and H S Frank —p 1123
Ringworm of Scalp Successful Treatment of 7 Institutional Cases by Manual Epilation and Salicylanilide Ointment C N Sullivan —p 1125
Reticulo Endotheliosis or Stem Cell Leukemia—Case Report T S Evans, A P Cipriano and E H Terrell Jr —p 1128
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Relationship of General Practitioner to Hospital Staff P A Davis —p 1137

Delaware State Medical Journal, Wilmington

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Aiding TB Research G T Evans —p 254

Gastroenterology, Baltimore

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Method of Improving Function of Bowel Use of Methylcellulose. J A Bargen —p 275
Hidden Gastroduodenal Lesions R P Reynolds and M O Cantor —p 280
The Pancreas Contributions of Clinical Interest Made in 1948 R Elman and H R Butcher —p 285
*Thephorin (Phenindamine) in Treatment of Gastrointestinal Allergy E M Schloss —p 311
Gastritis in the Dyspeptic P G Keil —p 319
Modified Mann Williamson Operation for Endoscopic Observations of Ulcer Bearing Areas J I Perl —p 322
Antigenic Properties of Enterogastrone Preparation E P Benditt and D A Rowley —p 326
Failure of Enterogastrone Preparation to Inhibit Gastric Secretion and Prevent Rumenal Ulcers in Rat E P Benditt, J B Kirsner and D Rowley —p 330
Interpretation of Histamine and Insulin Tests of Gastric Function J N Hunt —p 336
*Gastric Hyperchlorhydria with Three Primary Jejunal Ulcers and Hypoproteinemia Report of Case Relieved by Total Gastrectomy After Subtotal Gastric Resection Had Proved Inadequate T E Machella, J E Rhoads and R E Hobler —p 357

Thephorin® (Phenindamine) in Treatment of Food Allergy —Schloss employed thephorin® (phenindamine), an antihistaminic preparation and a pyridindene derivative Investigations of its toxicity indicate that it is less apt to produce untoward manifestations than diphenhydramine (benadryl®) and tripelennamine (pyribenzamine®) Such effects as do occur are generally stimulating in character (insomnia, apprehensiveness) and may be controlled by small doses of phenobarbital The efficacy of thephorin® in the symptomatic treatment of gastrointestinal food allergy was studied in 41 patients exhibiting a total of 126 complaints referable to the digestive tract Complete relief was obtained in 69 symptoms and partial relief in 26 more, thus, relief or amelioration was obtained *in* 75 per cent of complaints Most of the 41 patients had multiple complaints, 26 (nearly two thirds) obtained complete relief As in the employment of antihistaminics for other forms of allergy, such therapy is symptomatic and not curative Thephorin® appears to be of value in (1) symptom control during the procedure of specific de*sensitization*, with which it does not seem to interfere, (2) in palliation of symptoms in cases in which desensitization is impracticable and (3) in the crude delineation of gastrointestinal allergy in patients who have no discoverable evidence of organic digestive disease and in whom differentiation of symptoms from those caused by functional and neuropsychiatric factors is indicated It is possible that the combination of antihistaminic and anticholinergic effects of thephorin,® was responsible as evidenced in animal studies for the efficacy in relieving symptoms observed in this series

Gastric Hyperchlorhydria with Three Primary Jejunal Ulcers —Machella and his associates report a man, aged 42, with a history of indigestion of three years' duration He experienced gnawing pain above the umbilicus one to two hours after meals and occasionally at 2 a m The pain was relieved by food or alkali Roentgen examination disclosed a constricted and scarred duodenal cap Gastric analysis after a test meal revealed values for free hydrochloric acid varying from 106 to 130, and for total acid 124 to 147 clinical units He became free of distress and gained weight after being placed on an ulcer regimen The pain returned when the patient discontinued the dietary program The serum proteins were found to be low After a period of intensive oral and parenteral protein administration, he was scheduled for exploratory laparotomy During the early hours of the morning on which the operation was planned, acute abdominal symptoms developed The laparotomy revealed free fluid in the peritoneal cavity and three separate perforated ulcers in the first loop of the jejunum The perforations were closed, after biopsy specimens had been taken The patient recovered but began to vomit after a brief period of well-being Hypoproteinemia persisted After a period of intensive preparation, he was subjected to a subtotal gastric resection and to a subdiaphragmatic vagotomy The gastric acidity was not reduced sufficiently by these operations or by a subsequent transthoracic vagotomy to prevent secondary jejunal peptic ulceration Good health was eventually restored by a total gastrectomy

Journal of Clinical Investigation, Cincinnati

28 1247-1386 (Nov) (Part I) 1949

SYMPOSIUM ON RADIOACTIVE ISOTOPES

Production and Availability of Radioisotopes P C Aebersold —p 1247
Use of Stable Isotopes in Biological and Medical Research I M London —p 1255
Dosage Determination in Use of Radioactive Isotopes L D Marinelli —p 1271
*Personnel Protection in Use of Radioactive Isotopes G Failla —p 1281
Biological Hazards and Toxicity of Radioactive Isotopes A M Brues —p 1286
Equations for Tracer Experiments A K Solomon —p 1297
Therapeutic Application of Radioactive Phosphorus with Special Reference to Treatment of Primary Polycythemia and Chronic Myeloid Leukemia H L Friedell and J P Storaasli —p 1308
Radioactive Phosphorus in Studies on Metabolism of Normal and Neoplastic Tissues A Marshak —p 1324
Use of Radioactive Iodine in Studying Pathologic Physiology of Thyroid Disease R W Rawson —p 1330
Use of Radioiodine in Physiological and Clinical Studies on Thyroid Gland M S Raben and E B Astwood —p 1347
Radioiodine Therapy in Graves' Disease Review M H Soley and N Foreman —p 1367
Uptake and Elimination of Krypton and Other Inert Gases by Human Body C A Tobias, H B Jones, J H Lawrence and J G Hamilton —p 1375

Personnel Protection in the Use of Radioactive Isotopes —Failla says that the mental attitude of the worker plays an extremely important part in protection in the use of radioactive isotopes Most persons who have received some instruction are careful at the start Sooner or later a minor "emergency" arises and the worker goes through the necessary manipulations without using the protective devices He may be a little apprehensive but unless the exposure was really excessive he cannot detect ill effects, after a few such experiences he may conclude that the danger of overexposure has been exaggerated Every worker must be made to realize that radiation injury may not become apparent for many years This is true even in the case of a single exposure or a few exposures taking place within a few weeks It should be a rule never to venture into a potentially dangerous region without first surveying it with the proper kind of measuring instrument Temporary protective barriers are built up with lead bricks Sometimes a single barrier is placed between the source and the area to be protected This may or may not be sufficient The lead thickness may be ample for radiation passing through it, but radiation emitted in other directions will strike walls and will be scattered all over the room In making a survey for scattered radiation from a source not completely surrounded by lead all space in the vicinity of a strong source should be surveyed Isotopes emitting gamma rays are more dangerous to handle than pure beta emitters Only the superficial tissues of the body (to a depth of at most several millimeters) are irradiated by beta rays, whereas the entire body is traversed by gamma rays Most university or hospital laboratories handle rather small quantities of radioactive isotopes and exercise reasonable care in storing these materials Most of the exposure occurs in performing at close range some manipulative procedure which exposes the hands to high intensities of radiation that may lead later to cancer The author evaluates dosage rates for various radioactive sources and emphasizes the importance of protection in the handling of radioactive phosphorus (P^{32}) in hospital laboratories where familiarity with the handling of filtered radium might well lead to overexposure of the hands One who has handled radium applicators for years might not realize that the skin of the hand would get much more radiation from P^{32} sources of equal millicurie content.

Journal of Infectious Diseases, Chicago

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*Studies of Brucellosis in Utah H G Stoenner A A Jenkins and E H Bramhall—p 213
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Inclusion Bodies from Diseases of Undetermined Etiology and from Apparently Healthy Animals as Seen Unstained with Phase Microscope. J J Angulo—p 243
Active Immunization of Mice with Ultraviolet Inactivated Lymphocytic Choriomeningitis Virus Vaccine and Results of Immune Serum Therapy A Milzer and S O Levinson—p 251
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Induced Latent Infection and Resultant Active Immunity to M M Mouse Encephalomyelitis Virus in Mice Suckled by Immune Foster Mothers J E Gordon and F J Curley—p 259
Induced Modifications in Antigenic Reactivity of Pneumococcus B Laros—p 263
Increased Mortality Following Penicillin Therapy of Chick Embryos Infected with Candida Albicans Var Stellatoidea G E Foley and W D Winter Jr—p 268
Viruses of Lymphogranuloma Psittacosis Group Isolated from Opossums in Colombia Opossum Virus A M Roca García.—p 275
Effect of Alpha Tocopherol on Mucin Enhancement of Bacterial Invasiveness S S Elberg and D Gale—p 304

Brucellosis in Utah—According to Stoenner and associates the incidence of brucellosis in man varies in different sections of the country depending on the type of animal industry pursued From 1930 to 1943 the annual rate per 100,000 population in the major swine raising and cattle-raising areas was 3 76 and 3 34 respectively, while in the mountain states where the animal industry consists chiefly of cattle and sheep the annual rate was 1 99 per 100,000 population The authors summarize the results of agglutination tests for brucellosis on 25,294 serum samples forwarded to the Division of Laboratories, Utah State Department of Health, for routine serologic tests for syphilis This number represents a sampling of approximately 4 per cent of the population of the state. A questionnaire was forwarded to the physician submitting a positive sample to obtain an epidemiologic history from the patient It consisted of queries as to occupation, environment, use of raw or pasteurized dairy products, animal contact or contact with carcasses or meat of farm animals, history of a previous diagnosis of brucellosis and history of previous symptoms of brucellosis The incidence of agglutinins for Brucella abortus was 2.28 per cent in the 25,294 persons examined The incidence was somewhat higher in males than in females (2 48 and 2 13 per cent, respectively) Children presented the lowest incidence of agglutinins It was possible to demonstrate the effect of animal contact and the use of raw milk on serum titers Of 323 persons with positive titers 43 5 per cent of the males and 34 3 per cent of the females gave a history of symptoms suggestive of brucellosis The actual number of cases occurring annually is estimated to be twenty-six times the number reported The incidence of agglutinins in man is correlated with the amount of infection in cattle. Epidemiologic investigations suggest that Br abortus is the chief cause of human brucellosis in Utah

Journal of Lab and Clinical Medicine, St. Louis

34 1473-1622 (Nov) 1949

*Significance of Cholesterol Variations in Human Blood Serum L. M Morrison W T Gonzales and L. Hall—p 1473
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Tyrosine Metabolism in Human Scurvy W E Rogers and F H Gardner—p 1491
Observations on Etiologic Relationship of Achylia Gastrica to Pernicious Anemia XI Hematopoietic Activity in Pernicious Anemia of Beef Muscle Extract Containing Food (Extrinsic) Factor upon Intravenous Injection Without Contact with Gastric (Intrinsic) Factor F H Gardner J W Harris R. F Schilling and W B Castle.—p 1502
Further Observations on Use of Urinary Pigment Creatinine Ratio for Measurement of Basal Metabolic Rate J J Vorzimer and I B Cohen—p 1512
Effect of Retained Bronchial Lipiodol on Blood Iodine L Hyde and B Hyde—p 1516
Effect of Thyroid Secretory Activity on Distribution of Radioiodine in Plasma A. M Potts R A Shipley J P Storaasli and H L. Friedell—p 1520
Inhibition of Growth of Staphylococcus Aureus by Human Semen R. Rozansky J Gurevitch A Brzezinsky and B Eckerling—p 1526
Observations on Use of New Analgesic NU 2206 (3 Hydroxy N Methylmorphinan Hydrobromide) L L Zager W W Sawtelle E G Gross and others—p 1530
Effect of Spleen Protection on Mortality Following X Irradiation L O Jacobson E K. Marks M J Robson and others—p 1538
Observations on Mechanisms of Edema Formation in Lungs R. Paine, H R Butcher F A Howard and J R. Smith—p 1544

Cholesterol Variations in Human Blood Serum—Morrison and his associates used a modification of the Sperry-Schoenheimer method as developed by Chaney and Lovell This modification was checked against the original Sperry-Schoenheimer method and also against other procedures in use. The results emphasize the need for adhering to the fundamental principles of the Sperry-Schoenheimer procedure. The modification of Chaney and Lovell appreciably curtails the time required for the procedure and reduces the complexities of the original method while maintaining its accuracy The need for standardization and perfection of such technic has been even more emphasized by the recent renewal of interest in and investigations into the role of fat metabolism in the production of arteriosclerosis and in particular of coronary thrombosis Recent studies suggest that serum cholesterol levels are subject to variations under certain conditions in the same subject at different times The authors investigated these circumstances of variation. Two or more fasting serum cholesterol tests were made at intervals in 161 subjects who were classified in four groups In a series of 32 normal subjects the constancy of blood serum cholesterol levels was reaffirmed over prolonged test periods using a modification of the Sperry-Schoenheimer serum cholesterol procedure Wide variations in serum cholesterol values were found in a group of 31 patients with miscellaneous diseases Decided fluctuations in serum cholesterol values were observed in a series of 50 patients who had recently experienced a coronary artery thrombosis Analogous wide fluctuations in serum cholesterol values were found in a series of 48 patients who had recently experienced a coronary artery thrombosis and ingested 6 Gm of choline daily These fluctuations rendered it impracticable to determine whether choline effected a reduction or increase in serum cholesterol levels It is suggested that variations or instability in serum cholesterol exceeding 15 per cent when determined by the Sperry-Schoenheimer procedure (or a proved modification thereof) in a person presumed to be normal may possibly indicate a systemic disorder or latent illness It is suggested that should the Sperry-Schoenheimer procedure or a proved modification thereof show abnormal variations in serum cholesterol values, these may be due to a disturbance in the function of the liver-regulating cholesterol metabolism

Journal-Lancet, Minneapolis

69 415-452 (Dec) 1949

Study of 258 Cases of Appendicitis Based on Pathological Findings H B Wightman —p 415
Acute Pancreatitis J W Quattlebaum —p 418
Ankle Protection Study of Methods Used in Athletics H R McPhee —p 426
Results of Reducing Diets for Overweight University Students R I Todd and D P Siemers —p 429
*Postpartum *Optic Neuritis Due to Multiple Sclerosis* H W Hawn —p 431
New Vaginal Speculum J E Bieck —p 433
Interstitial Pregnancy J H Moore and J A Hill —p 435
Use of Iodine in Solusalve Base as Antiseptic J Kass —p 436

Postpartum Optic Neuritis and Multiple Sclerosis—Hawn says that according to some observers optic neuritis is found in 50 per cent of all cases of multiple sclerosis at some stage of the disease Multiple sclerosis is occasionally first manifested after a normal pregnancy, but pregnancy and some of the other predisposing factors merely activate what was previously a latent or subclinical form of multiple sclerosis In these women the first symptom of the disease often is a sudden onset of blurred vision occurring several months after delivery The course of the disease and its response to treatment is no different in these cases than in those not associated with pregnancy During the past two years the author has followed 5 patients in whom signs and symptoms of multiple sclerosis developed after pregnancy The histories of 2 of these patients show that pregnancy can initiate an attack of optic neuritis in women who previously had no stigma of multiple sclerosis or who had been free of symptoms for a number of years prior to pregnancy and delivery The questions arise whether a woman who has proved multiple sclerosis should become pregnant and whether interruption of pregnancy is indicated in such women The author mentions his observations and opinions of other investigators He agrees with Fleck, who divides the women in the child-bearing age who have multiple sclerosis into two groups In the group in which there is no progression of the symptoms and little or no disturbance of function or psychic disturbance, he does not advocate either sterilization or interruption of pregnancy In the second group, in which there is gross disturbance of physical and psychic capacity, he believes that pregnancy should be interrupted and sterilization performed

Journal of Nat Cancer Inst, Washington, D C

10 *225-564* (Oct) 1949

Recent Developments in Transparent Chamber Technique as Adapted to Mouse G H *Algire* and F Y Legallais —p 225
Development of Adenocarcinoma of Breast in Wistar Rat Following Gastric *Instillation of* Methylcholanthrene H Shay, E A Aegerter, M Gruenstein and S A Komarov —p 255
Preliminary Studies of Effectiveness of Local Irradiation in Induction of Lymphoid Tumors in Mice H S Kaplan —p 267
Neoplastic Transformation as Biologic Fractionation of Related Enzyme Systems J P Greenstein, P J Fodor and F M Leuthardt —p *271*
Cardiovascular *Effects Produced by Stilbamidine in Patients* with Multiple Myeloma *H* R Bierman and M Sokolow —p *279*
Influence of Perforation Design on Growth of Tissue Cells Under Perforated *Cellophane* Sheets in Vitro W R Earle, V J Evans, M I Edward and F Duchesne —p 291

Journal of Neurophysiology, Springfield, Ill

12 291-358 (Sept) 1949 **Partial Index**

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Cerebello Bulbo Reticular Pathway for Suppression R S Snider, W S McCulloch and H W Magoun —p 325
Respiratory and Vascular Responses in Monkeys from Temporal Pole, Insula, Orbital Surface and Cingulate Gyrus Preliminary Report B R Kaada, K H Pribram and J A Epstein —p 347

Journal of Nutrition, Philadelphia

39 445-600 (Dec) 1949 **Partial Index**

Effect of Cocoa upon Calcium Utilization and Requirements, Nitrogen Retention and Fecal Composition of Women M L Bricker, J M Smith, T S Hamilton and H H Mitchell —p 445
*Effect of Storage on Nutritional Qualities of Proteins of Wheat Corn and Soybeans H H Mitchell and J R Beadles —p 463
Nutrient Analyses of United States Food Supplies Analyses of Composited Samples of Our National Food Supplies and White Flour and Non White Flour Components Thereof in Terms of Various Nutrients L E Booher and I T Behan —p 495
Relationship of Dietary Factors to Toxicity of Alloxan C S Rose and P György —p 529
Nitrogen Balance in Men Consuming Raw or Heated Egg White as Supplemental Source of Dietary Protein H H Scudamore, G R Morey, C F Consolazio and others —p 555

Effect of Storage on Protein Values—The experiments reported by Mitchell and Beadles were designed to study the effect on the utilization of growing rats of the proteins of wheat corn and soybeans in storage for periods up to three years *Each of the grain* samples was stored in two conditions, as whole kernels and as a meal ground to pass through a 1 mm sieve The ground soybean sample was defatted and autoclaved for ninety minutes at 17 pounds steam pressure to simulate commercial expeller-processed meal The samples were stored in screw-top tin cans (capacity about 1 gallon 3,785 cc) and were sealed with paraffin The authors obtained the impression that the nutritive value of the proteins of cereal grains stored under conditions preventing insect infestation and mold growth (by lowering moisture content below a critical level) is not appreciably altered by seed respiration over long periods of time This is not true for the soybean, the proteins of which may suffer considerable nutritional damage after one year of storage The distinction between the two types of seed may reside largely in the fact that the living part of the seed, the embryo, constitutes only a small part of the cereal seed but a predominant part of the legume seed

Kansas Medical Society Journal, Topeka

50 529-580 (Nov) 1949

Uterine Bleeding R J Crossen —p *529*
Basal Metabolism and Hypothyroidism D P Trees —p 534
Malignant Tumors of Accessory Nasal Sinuses G M Tice and W L Beller —p 537
Cytologic Study of Sputum Bronchial Secretion and Pleural Fluid in Carcinoma of Lung D E Miller—p 543
Tuberculosis in the Aged J I Sitterley —p 547

50 581-636 (Dec) 1949

Survey of Anesthesia for Intra Abdominal Operations J W Pender —p 581
New Concept of Treatment DeM F Eckart —p 586
Gastroduodenal Ulcer Following Gastroduodenostomy for Duodenal Ulcer V D Alquist and P Cooper —p 589
Carotenemia Case Report W L Schafer and E L Slentz —p 592
Control vs Eradication of Tuberculosis J L Sitterley —p *593*

Minnesota Medicine, St Paul

32 *1161-1262* (*Dec*) *1949*

*Cytologic Diagnosis of Malignant Lesions of Esophagus and *Cardia of* Stomach H A Andersen, J R McDonald and A M Olsen —p 1181
*Malignant Tumors of Lung Their Diagnosis by Cytologic Examination of Sputum and Bronchial Secretions J R McDonald and L. B Woolner —p 1186
Cancer Detection Center at the University of Minnesota T B Hubbard Jr —p 1190
New Forms of Vital Records *for* 1950 G G Casady and J W Brower —p 1193
Flexor Tendon Injuries of Hand —A T Hays —p 1199
Medical Care Problems of the Aged E J Simons —p 1206
Sources of Error in Diagnosis of Feeblemindedness *G Arthur* —p 1210

Cytologic Diagnosis in Lesions of Esophagus and Gastric Cardia—*This report* by Andersen and his associates is based on a review of 86 cases in which cytologic examination of smears obtained from the esophagus or gas*tric* cardia apparently disclosed malignant cells which were considered indicative of the presence of a primary malignant lesion of one of these organs In 2 of the 86 cases operation subsequently disclosed only benign hyperplasia of the squamous epithelium The authors do not consider it possible to reduce the percentage of cases in which such an error may occur The final *diagnosis* in the remaining 84 cases was squamous cell carcinoma of the esophagus in 44 cases, leiomyosarcoma of the esophagus in 1 case and adenocarcinoma of the gastric cardia in 39 cases Esophagoscopic biopsy did not disclose evidence of a malignant lesion in 15 of the 84 cases An exploratory operation was performed in 35 of the 84 cases In 7 of the 35 cases the disclosure of malignant cells by cytologic examination was the only microscopic evidence of a malignant lesion before operation was performed In all 7 cases the cytologic diagnosis was confirmed by biopsy or histologic examination of the excised tumor Cytologic examination of smears is of more value in the diagnosis of adenocarcinoma of the gastric cardia than it is in the diagnosis of carcinoma of the esophagus

Malignant Tumors of Lung Cytologic Examination—According to McDonald and Woolner cytologic examination of the sputum and bronchial secretions is performed routinely at the Mayo Clinic in all cases in which the presence of bronchogenic carcinoma is suspected This examination has been employed during three years in approximately 6 000 cases It has disclosed carcinoma cells in more than 400 of these. In approximately four fifths of the 6 000 cases the material consisted of sputum in the remaining cases it consisted of bronchial secretions bronchial smears or bronchial washings An exploratory operation has been performed in 144 of the 400 cases in which cytologic examination disclosed carcinoma cells Pneumonectomy or lobectomy was performed in 77 of the 144 cases The value of this diagnostic method has been questioned because the presence of carcinoma cells in the sputum or bronchial secretions has been said to be a late manifestation of bronchogenic carcinoma It is significant that the presence of carcinoma cells in the sputum or bronchial secretions was the only microscopic evidence of carcinoma in 32 of the 77 cases in which the lesion proved to be operable The authors conclude that cytologic examination of the sputum and bronchial secretions is useful in the preoperative diagnosis of bronchogenic carcinoma It should be remembered however that this method of examination results in a false negative diagnosis in approximately 30 per cent of cases and that it results in a false positive diagnosis in approximately 2 per cent of cases

New England Journal of Medicine, Boston

241 889-950 (Dec. 8) 1949

*Transfusion Treatment of Shock Due to Myocardial Infarction F H. Epstein and A S Relman—p 889
B C.G Tuberculin as Testing Material E. Friedman and I Silverman—p 894
*Observations on Symptomatic Treatment of Chronic Vascular Headache with Cafergone (Ergotamine Tartrate and Caffeine) S G Cohen and L. H Criep—p 896
Mycetoma Report of Case of Actinomycotic Variety E B Reilly and H H Steel—p 900
Herpes Gestationis Fetal Anomaly Syndrome Treated Successfully with Sulfapyridine J G Downing and O F Jillson—p 906
Rh and Other Blood Groups (Concluded) L. K. Diamond and F H Allen Jr—p 907
Glioblastoma Multiforme of Left Temporal Lobe with Metastases to Spinal Cord and Spinal Nerves—p 939
Cirsoid Aneurysm of Branch of Left Gastroepiploic Artery with Rupture and Massive Hemorrhage—p 942

Transfusion Treatment of Shock Due to Myocardial Infarction—*Epstein and Relman point out that there has been* considerable dispute over the safety and efficacy of transfusions of blood or plasma in the vascular collapse attending myocardial infarction The authors compared the effects of transfusions in 30 patients in shock after coronary occlusion with the natural history of the disease in 20 patients not given transfusions Although transfusion seemed to be of benefit in a few cases, there was no significant difference between the two groups in mortality and recovery from shock Transfusion did not seem to increase the incidence of pulmonary edema or the severity of congestive failure

Treatment of Chronic Vascular Headache—Cohen and Criep say that many patients with migraine know that black coffee will enhance the effect of ergotamine tartrate or afford a certain degree of relief by itself Horton, Ryan and Reynolds obtained excellent results with cafergot (formerly cafergone) in patients with migraine. The authors present observations on 50 patients with chronic vascular headache who were given a therapeutic trial with cafergot. This was administered in oral tablets (E C. 110) (each tablet contains 1 mg ergotamine tartrate and 100 mg caffeine) and in the form of a rectal suppository (E C 112) (each contains 2 mg ergotamine tartrate and 100 mg caffeine) for those in whom the oral preparation was contraindicated. The dosage was three tablets immediately during the aura or at the first warning of an impending headache and then one every half hour as needed for three subsequent doses the total dosage not exceeding six tablets The data presented suggest that the synergistic action of caffeine when added to ergotamine tartrate is more effective in some patients with migraine than that of ergotamine alone when given orally, and is occasionally as effective as that of ergotamine tartrate when administered hypodermically The indications and contraindications for its use and the side actions produced are essentially those of ergotamine tartrate.

New Jersey Medical Society Journal, Trenton

46 499-546 (Nov) 1949

Derangements of Hip in Infancy and Childhood H T Hansen.—p 501
Preoperative and Postoperative Management of Diabetics. G Ginsberg—p 504
Development of Campaign Against Rheumatic Diseases C. McEwen.—p 510
Psychosomatic Management of Respiratory Allergic Patient. L Fischer—p 516
Pre-Anesthetic Preparation in Children L C Mark and E. M. Papper—p 520
Cancer of Cervix. G P Koeck.—p 524

Pennsylvania Medical Journal, Harrisburg

52 *1521-1616 (Nov) 1949*

Death and Injury as Related to Automobile and to the Engineering and Medical Professions F D Woodward—p 1537
Present Day Treatment of Duodenal Ulcer D J Sandweiss.—p 1543
Meckel s Diverticulum Causing Recurrent Intussusception J W Levering and D B Miller—p 1555
Pathogenesis of Silicosis S M Evans and R. L Kascht—p 1557
Clinical Aspects of Anthracosilicosis B Gordon—p 1560

Physiological Reviews, Baltimore

29 281-402 (Oct.) 1949

Adrenal Cortex and Water Metabolism R Gaunt J H Birnie and W J Eversole—p 281
Motion Sickness D B Tyler and P Bard.—p 311
Zinc in Mammalian Organism with Particular Reference to Carbonic Anhydrase. B L Vallee and M D Altschule—p 370
Thiaminase Chastek Paralysis Factor W H Yudkin.—p 389

Public Health Reports, Washington, D C

64 1631-1654 (Dec 23) 1949

Denver Rheumatic Fever Diagnostic Service Purpose and Method of Operation W Darley—p 1631

64 1655-1678 (Dec. 30) 1949

Public Health Approach to Improving Community Mental Health Through Schools C A. Ullmann.—p 1655
*Rat Bite Fever in Montana W L Jellison P L. Eneboe R. R. Parker and L E. Hughes—p 1661
Defects in Sanitary Environment on Vessels R. C Graber and A. P Miller—p 1666

Rat-Bite Fever in Montana.—Jellison and his collaborators present a case of rat-bite fever that occurred in the fall of 1948 in a girl 9 years of age living on a farm near Bozeman, Mont. The child had been bitten by a mouse which she found sick in the yard of her farm home Seven days later her finger became swollen and painful there was malaise with chilly sensations She was first seen by a physician nine days later, sixteen days after she had been bitten At that time her oral temperature was 103 F Physical examination was negative except for a series of macules extending up the right arm to the axilla The macules varied from 0 5 to 2 cm in diameter She was treated with penicillin and sulfadiazine. However high temperatures recurred and on the basis of a clinical diagnosis of tularemia which, however could not be corroborated by agglutination tests streptomycin therapy was started nineteen days after the onset of symptoms The temperature became normal within twenty-four hours, and convalescence was uneventful Infection apparently resulted from the bite of a mouse, probably a house mouse Spirillum minus was demonstrated in heart-tissue smears of 16 house mice trapped in the farm buildings and in those of 1 field mouse trapped in a field ¼ mile away

Review of Gastroenterology, New York

16 887-946 (Dec) 1949

Depressionless Relaxation for Gastrointestinal Surgery A L Soresi —p 897
Anoxic Inhibition of Small Bowel Peristalsis B J Ficarra —p 906
Intestinal Bacteria, Pathogenic and Nonpathogenic A Bassler and A G Peters —p 911
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Rocky Mountain Medical Journal, Denver

46 *993-1080 (Dec) 1949*

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Surgical Significance of "Non Functioning' Gall Bladder E J Lowell Jr —p 1033

Southern Medical Journal, Birmingham, Ala

42 1021-1110 (Dec) 1949

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Myocardial Metastases from Carcinoma of Cervix with Ventricular Tachycardia *and Sudden Death Case Report R* L Dross and I B Cutts —*p 1040*
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Postabortal *Tetanus R G* Campbell and W W Brown *Jr* —p *1086*
Spontaneous Rupture of Non Gravid Uterus H C Frech —p 1088
Muscle *Relaxing* Agent in Treatment of Cerebral Palsy H F Hipps —p 1090
Central Placenta Previa with Spontaneous Delivery Report of Case T B Fletcher and J W *Pilkington* —p *1092*

Potassium Chloride and Digoxin in Congestive Heart Failure —According to Buff thousands of cases of poisoning have occurred since the advent of some of the purified glycosides of digitalis in the treatment of heart disease The chief reasons for this are the use of one standard dose for all persons, the insidious onset of toxicity with a lack of irritative symptoms and *the slow* rate of elimination with frequent cumulative effects from the leaf and long-acting glycosides such as digitoxin The author used potassium therapy as proposed by Sampson in cases of digitalis poisoning In the event of digitalis overdosage, 5 to 10 Gm *of potassium* chloride are given in milk If oral administration is contraindicated, then intubation is accomplished with a Levine tube Rectal instillation of 10 Gm of potassium chloride dissolved in *200 cc* of tap water was accomplished in *2* cases As soon as the patient recovers from digitalis intoxication, a maintenance dose of 1 Gm of potassium chloride in milk, three times a day, is given After one week of potassium administration, digoxin is started in the smallest dose that can maintain digitalization The author reviews clinical experiences with this combined therapy in 40 cases His observations illustrate the safety and efficacy of this method in the treatment of congestive heart failure Simultaneous administration of digoxin and potassium will delay or prevent the toxic action of digitalis

United States Naval Med Bulletin, Washington, D C.

49 995-1204 (Nov -Dec) 1949 **Partial Index**

Cardiolipin Slide and Standard Kahn Tests for Syphilis Comparative Study W Silliphant J J Engelfried, G S Ellis and B Butterfield —p 995
*Coccidioidomycosis Review of Literature and Report of 9 Cases J L *Norman* and A L Lawler —p 1005
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Bacteriostatic Coagulants as Fillers in Bone Surgery J W Metcalfe —p 1067
Acute Bacterial Endocarditis of "Escherichia Coli" Origin Streptomycin Treatment J Love, C P Powell, W M Strunk and G F Hinkens —p 1070
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Infectious Mononucleosis Report of Relapsing Case Treated with Chloromycetin F G Hirsch —p 1081
Tularemia Report of Case Treated Successively with Streptomycin and Aureomycin H H Carroll and J E Gorman —p 1085
Rheumatic Fever J A C Gray —p 1088

Coccidioidomycosis —Norman and Lawler report 9 patients with proved coccidioidomycosis *observed* in the United States Naval Hospital, San Diego, during the past two years They stress that primary pulmonary coccidioidomycosis occurs frequently in the endemic areas in the southwestern part of the United States The primary pulmonary form may be so benign as to escape detection Frequently, the infection produces symptoms that closely simulate lobar pneumonia, nonspecific pneumonitis, pulmonary tuberculosis and new growths It is usually accompanied by hilar node involvement and can be easily diagnosed by specific tests (skin tests with coccidioidin, complement fixation and precipitin tests) if the disease is suspected In 5 per cent of the cases there is an accompanying erythema nodosum or erythema multiforme which is an allergic manifestation of the disease The disseminated form of the disease occurs rarely, in about 1 case in 400 It carries a mortality of 50 per cent or more and follows the primary form in from several months to ten years or longer In the disseminated form any organ in the body may become involved

Wisconsin Medical Journal, Madison

48 1049-1164 (Dec) 1949

General Management of Carcinoma of Large Bowel P F Doege —p 1069
Evaluation of Methods and Treatment of Peripheral Arterial Disorders. R A Frisch and M Hardgrove —p *1072*
*Lithium Intoxication Producing Chorea Athetosis *with* Recovery H A *Peters* —p 1075
Female Intersex Report of Unusual Case L E Fazen Jr —p 1077
Smallpox Vaccinations in Institutions for Aged and Infirm S T Gettelman —p 1079

Lithium Intoxication from Salt Substitute —Peters says that cases of lithium chloride intoxication have been reported since the introduction of lithium chloride as a substitute for table salt In a *man* aged 57 chorea-athetosis of Huntington's type developed after sixteen days' treatment for cardiorenal edema *on* a salt restriction diet and free use of lithium chloride as a salt substitute. Approximately 20 Gm of lithium chloride had been ingested when the toxic symptoms began The clinical picture was progressive until the toxic factor of lithium salt was discontinued Recovery from the mental disturbances and the choreo-athetosis occurred after five days, with return *to* normal status A salt-free diet and cardiorenal impairment appear to predispose to this toxic effect

Yale Journal of Biology and Medicine, New Haven

22 109-198 (Dec) 1949

Remarks to Undergraduate Students of Clinical Medicine G F Powers —p 109
Role of Certain Steroids in Adrenal Hyaluronidase Relationship J C Opsahl —p 115
Rise of Scientific Activity in Colonial New England F G Kilgour —p 123
Toxic Effects of Antithyroid Drugs J P Peters E B Man, D M Kydd and others —p 139

FOREIGN

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Biochemical Journal, London

45 245 372 (No 3) 1949 **Partial Index**

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Tryptophan and Biosynthesis of Nicotinamide P Ellinger and M M A Kader—p 276

Chromatographic Studies of Nucleic Acids I Technique for Identification and Estimation of Purine and Pyrimidine Bases Nucleotides and Related Substances R Markham and J D Smith—p 294

Studies in Vitamin A S Ball and R A Morton—p 298

Pyruvate-Oxidase System in Brain and Tricarboxylic Acid Cycle R. V Coxon C Liebecq and R A Peters—p 320

Acceleration of Bacterial Glutamic Decarboxylase and Glutaminase by Cetyltrimethylammonium Bromide. D E Hughes—p 325

Factors Influencing Polysaccharide Content of Escherichia Coli S Dagley and E A Dawes—p 331

Breakdown of Oxidized Forms of Coenzymes I and II by Enzyme from Central Nervous System H McIlwain and R Rodnight—p 337

British Journal of Radiology, London

22 677-736 (Dec.) 1949 **Partial Index**

Experimental Determination by Ionization Method of Rate of Emission of Beta and Gamma Ray Energy by Radioactive Substances Isotopes Na^{24} P^{32} Co^{60} and I^{131} L H Gray—p 677

External Measurement of Radio-Iodine in Thyroid Gland T H Oddie and R K Scott.—p 698

Breast Carcinoma Treated with Stilboestrol and Deep X Ray Report of Case C G Binnie—p 714

Pneumoconiosis and Tuberculosis in Dockers Dealing with Grain and Seeds. L Dunner—p 717

Miliary Calcification of Liver Report of Case R Astley and N Harrison—p 723

Xanthomatosis Associated with Vertebra Plana P M Davies—p 725

Miliary Calcification of Liver—Astley and Harrison cite the case of a soldier aged 21 who had received several stab wounds in the abdomen chest, face and neck He had a hemothorax on the right side At exploratory laparotomy it was determined that no abdominal viscus had sustained trauma, and the wounds were sutured after surgical toilet and aspiration of a small amount of intraperitoneal blood During the operation the entire surface of the liver was seen to be spotted with small discrete white nodules each about the size of a match head The nodules in the liver and similar nodules in the spleen were demonstrated by roentgenography Calcification in the liver is rare According to one report only 1 case was found in 8 000 necropsies Hydatid disease abscess hepatic calculi metastatic foci Hodgkin's disease, tumors gummas and tuberculosis are cited as possible causes of these calcifications In the reported case practically all these causes could be excluded It seemed most likely that the opacities in the liver and spleen were due to calcified miliary tuberculous foci

British Medical Journal, London

2 1247-1306 (Dec 3) 1949

Electron Microscopy of Bacteria and Viruses A S McFarlane—p 1247

Clinical Tests of New Coumarin Substance Report to Medical Research Council C C Burt H P Wright and M Kubik—p 1250

Isolation of Salmonellae from Dogs Cats and Pigeons J C Cruickshank and H W Smith—p 1254

Hospital Outbreak of Enteritis Due to Duck Eggs L P Garrod and M B McIlroy—p 1259

Martius Bulbo-Cavernosus Interposition Operation W Shaw—p 1261

Thrombosis of Internal Carotid Artery T G I James—p 1264

Ogilvie's Syndrome of False Colonic Obstruction Is It a New Clinical Entity? J A MacFarlane and S K Kay—p 1267

*Kartagener's Syndrome C T Andrews—p 1269

*Death from Dermatitis and Stomatitis During Streptomycin Therapy R A Pallister—p 1271

Unusual Manifestations of Malaria A K Nandi—p 1272

Kartagener's Syndrome—Andrews discusses the association of complete transposition of the viscera with bronchiectasis and points out that it was first mentioned by Siewert in 1904 Subsequently a few isolated reports appeared until Kartagener in 1933 reviewed 11 cases Some later reports have mentioned congenital absence of the frontal sinus usually associated with ethmoid and maxillary infection The case cited showed congenital abnormality of the paranasal sinuses to an extent not hitherto recorded The patient was a man aged 44, with a productive cough of many years duration Situs inversus totalis was demonstrated Plain roentgenograms of the chest revealed a condition suggestive of multiple cysts in the left upper lobe A bronchogram showed that the lungs were transposed that the cysts seen in plain film were in communication with the bronchial tree and that bronchiectasis was also present in the right lower lobe and lingula. Bronchoscopy showed much pus coming from the left upper bronchus The bronchus of the left middle lobe looked inflamed and some pus was seen there. Radiographs also revealed small frontal sinuses and poorly developed ethmoid labyrinths Both antrums were small and poorly developed. Sphenoidal sinuses were absent No air cells could be found in either mastoid The ballooning of the ear drums in this case was assumed to be a compensatory phenomenon related to the absence of mastoid air cells It was thought that the extreme lack of development of the sinuses had protected them from infection the only formed cavities being those of the antrums The bronchiectasis and cystic condition of the lungs are believed to be similar in causation and to have followed an attack of pneumonia in infancy The high incidence of bronchiectasis in cases of transposition raises the possibility of congenital abnormality of the walls of the bronchioles as a factor in these and possibly other cases

Death from Dermatitis and Stomatitis During Streptomycin Therapy—Pallister says that when dermatitis occurs during streptomycin therapy it is usually mild and stomatitis is rare. He reports 2 cases in which fever and lesions of the skin and mucous membranes occurred during the treatment of pulmonary tuberculosis with streptomycin The patients were men aged 25 and 28, both died. The author believes that abnormal sensitivity to streptomycin or a direct poisoning by the drug is the most probable cause of the symptoms

Glasgow Medical Journal

30 385-416 (Nov) 1949

Disseminated Lupus Erythematosus Notes on 3 Fatal Cases with Short Review of Literature. A G Fergusson J A Milne and W N Shand.—p 385

Concentration of Biliary Constituents in Human Gall Bladder S V Telfer—p 395

*Subacute Bacterial Endocarditis Follow Up of Patients Treated with Penicillin J B Rennie and H Conway—p 400

Penicillin in Subacute Bacterial Endocarditis—Rennie and Conway describe the fate of 13 patients with subacute bacterial endocarditis who were treated with penicillin The treatment was unsuccessful in 6 patients Heart failure was the cause of death in 4 of the 6 Persistent infection was considered the chief cause of death in only 1 patient, who had also severe renal damage Cerebral embolism was responsible for the death in 1 instance and was a contributory factor in another case in which heart failure was the chief cause. The authors discuss the subsequent history of the 7 patients in whom treatment was successful and make a distinction between a relapse and a second attack By relapse is meant return of symptoms and positive blood culture within a few weeks after a course of treatment and before discharge from hospital Repeat illnesses occurring at a considerable period after the initial infection are referred to as second attacks Three patients had second attacks at intervals of forty two twenty-two and thirteen months after they were discharged as cured. In all cases the same organism (a streptococcus of the viridans group) was responsible for both illnesses Good health was enjoyed between attacks One of the 7 patients in whom penicillin treatment was successful died three and one half years later The other 6 patients, all young females, were alive and well at the time of writing All except 1 of those who died were males Thus the prognosis was better in females The development of heart failure during treatment had a serious prognostic significance

Journal of Laryngology and Otology, London

63 635-710 (Nov) 1949

Operative Treatment of Chronic Suppurative Otitis Media. W I Daggett.—p 635

Treatment of Recurrent Otitic Barotrauma by Irradiation (with Special Reference to Lymphoid Tissue in Sub-Mucosa of Eustachian Tube) E D D Dickson and J E G McGibbon—p 647

Idiopathic Haemotympanum. D Ranger—p 672

Journal of Neurol, Neurosurg & Psychiatry, London

12 259-338 (Nov) 1949 Partial Index

Recording of Nerve Action Potentials Through Skin in Man G D Dawson and J W Scott —p 259
"Insertion Activity ' in Electromyography, with Notes on Denervated Muscle Response to Constant Current E Kugelberg and I Petersen —p 268
Degeneration of Granular Layer of Cerebellum A D Leigh and A Meyer —p 287
Intramedullary Trigeminal Tractotomy and Its Place in Treatment of Facial Pain M A Falconer —p 297
*Cerebral Angiography Tolerance for Contrast Media of Diodrast Type O Olsson —p 312
*Clinical and Electro-Encephalographic Studies of Prisoners Charged with Murder D Stafford Clark and F H Taylor —p 325

Cerebral Angiography Tolerance for Contrast Mediums —Olsson describes his investigations on the tolerance for contrast mediums of the iodopyracet (diodrast®) type in 330 cerebral angiographic examinations Sixteen patients reacted with a slight rise of temperature, 2 with severe allergic symptoms and 3 with cerebral symptoms In 2 of these a vascular lesion was diagnosed clinically On roentgen examination a thrombosis of the internal carotid artery was diagnosed in one case and arteriosclerotic vascular changes in the other In the third case a large temporal astrocytoma was found at operation The general condition deteriorated considerably after the angiogram in all 3 patients, the injection was made rapidly, and the contrast medium was highly concentrated The author mentions animal experiments which demonstrated that contrast mediums of the iodopyracet type are capable of impairing the vascular permeability of the cerebral vessels and breaking down the blood-brain barrier if they are of sufficient concentration and if they are allowed to act on the vessel wall for a sufficient length of time In assessing the need for angiography the possible risks should be taken into consideration Use of the method should be assigned to departments in which there is enough material available for the radiologist to gain experience in cerebral angiography

Electrocardiographic Studies on Prisoners Charged with Murder —Stafford-Clark and Taylor made clinical and electroencephalographic studies on 64 prisoners charged with murder Their observations suggest that a significant correlation exists between apparently motiveless crime and electroencephalographic abnormality Although this abnormality is not specific, it has been found in over 70 per cent of prisoners whose crimes appeared motiveless but who were otherwise clinically sane and normal

Lancet, London

2 1021-1066 (Dec 3) 1949

* 'Pleural Shock ' A Morland —p 1021
Caesarean Section in Infected Cases F Stabler —p 1023
Q Fever in Great Britain Isolation of Rickettsia Burneti from Indigenous Case F O MacCallum, B P Marmion and M G P Stoker —p 1026
*Q Fever in Great Britain Clinical Account of 8 Cases J B Harman —p 1028
Early Diagnosis of Cerebral Palsy C D S Agassiz, M B O'Donnell and E Collis —p 1030
Suggested Method for Titration of Certain Antibiotics F C O Valentine and R G S Johns —p 1033
Reticulocyte Response to Liver Therapy in Pernicious Anaemia J Kobári Kuchirik —p 1034
Erythema Multiforme Exudativum (Stevens Johnson Syndrome) E Dresner —p *1036*

"Pleural Shock "—According to Morland the term "pleural shock" should be dropped, since there is no evidence that mechanical or chemical stimulation of sensory nerves in the pleura is any more likely to produce serious or fatal accidents than similar trauma in other parts of the body Provided that an adequate collapse of the lung has already been obtained, there is no reason to believe that local anesthesia increases the safety of a pneumothorax refill Air embolism, either cerebral or coronary, is the commonest cause of accidents accompanying refills When difficulty is experienced in finding the pleural space, the patient should not be encouraged to breath deeply, since this may lead to the passage of air into a pulmonary vein directly from air-containing tissue, even when no air is given from the apparatus Five serious accidents, of which 1 was fatal, during aspiration of pleural fluid are described, air embolism having with all probability been excluded The evidence suggests that disturbance of the heart from reduction of the intrathoracic pressure is the most likely explanation Such accidents may happen when the pleura is thickened and inelastic It is therefore important to avoid extremely low pressures during aspiration or replacement of fluid

Q Fever in Great Britain —Harman reports 8 cases of Q fever in 5 men and 3 women between the ages of 29 and 78 One of these patients, a man aged 78, was admitted to the Royal Cancer Hospital probably during the incubation period of Q fever and died of pneumonia after a febrile illness lasting eleven days Four patients, 1 nurse, 2 pathologists and 1 postmortem room attendant were infected during the terminal stages of the illness and at the necropsy of the first patient The sixth patient was the wife of the patient who died of pneumonia No connection with the other 6 patients could be traced in the seventh and eighth patients (husband and wife) Q fever starts suddenly At first the symptoms may be mild, so that the patient is not confined to bed for several days Temperature of 104 F is common when the attack is fully developed The temperature sometimes falls to normal more than once a day, and these swings are accompanied by rigors and drenching sweats The pulse rate often remains at 70 per minute Prostration is severe, and delirium is common Muscular aches and backaches are early symptoms, but these are soon overshadowed by headache, which is continuous behind the eyes or at the back of the head Within a week a tickling, unproductive cough begins, but it seldom develops further, though one of the author's patients had a purulent sputum intermittently streaked with blood Roentgenologic signs may persist for weeks and suggest partial lobular consolidations, usually at the base though any lobe may be affected Collapse and pleural effusion may be seen Apart from the anorexia and nausea of fever, gastrointestinal symptoms are rare There is no skin rash such as characterizes many other rickettsial infections There is no coryza Complications are hardly ever seen Usually the disease persists for a week, but occasionally the temperature remains elevated for a month Termination is by lysis Fatalities are mostly confined to persons over 50 years of age who have some other chronic disease

Medical Journal of Australia, Sydney

2 589-624 (Oct 22) 1949

Juvenile Posture of Legs and Knees E E Price.—p 589
Posture Fundamentals J Macnamara —p 592
Review of 50 Cases of Gastrectomy for Peptic Ulcer with Special Reference to Local Anaesthesia V J Kinsella —p 595
*Treatment of Acute Lumbago and Acute Low Back Strain in General Practice J H Young —p 596
Acute Porphyria, with Report of 2 Cases B S Hetzel —p 600
Enterocele H K Porter —p 602
Injury to Semilunar Cartilage in Knee Joint Review of 140 Cases C H Hembrow A J W Ahern, G Brown and others —p 605
Influenzal Meningitis G A Robbie and W R Pitney —p 609

Treatment of *Lumbago and Lower Back* Strain —According to Young acute lumbago is an acute attack of pain in the lumbar region usually coming on without apparent cause Acute lower back strain is an essentially similar condition, the pain being brought on by trauma, usually a bending, lifting or twisting strain The author gives reasons why it can be assumed that the majority of attacks of lower back pain are due to disk lesions He maintains that there is no justification for believing that attacks of lower back pain commonly seen in practice are due to lesions of muscle, fascia or ligament until such conditions have been seen He does not deny that pain of muscular origin does occur in the back It may follow unaccustomed work but will abate in a few days If lower back pain is severe enough or lasts long enough to make the patient seek medical advice, it is not muscular in origin Surgical experience has taught that an attack of lower back pain associated with an acquired scoliosis is probably always due to protrusion of a lumbar intervertebral disk and that if there is no acquired scoliosis there will be a degenerated disk or only a tiny protrusion The author found that attacks of acute lower back pain without scoliosis are usually rapidly relieved by an epidural injection of procaine Of 30 patients thus treated, 23 obtained immediate relief of pain, tenderness and limitation of movement Attacks of acute lower back pain associated with acquired scoliosis are usually relieved by infiltration with procaine of the sacrospinalis on the convex side followed by traction Fifteen patients so treated have lost their pain, deformity and limitation of movement in an average period of four days After-treatment with a support and exercises is necessary in both types.

2 661-696 (Nov 5) 1949 **Partial Index**

*Poliomyelitis Account of 90 Cases with Reference to Role Played by Tracheotomy in Bulbar Involvement G A. McIntosh and D B McLeay —p 661
Experience in Use of Anticoagulants W McI Rose.—p 665
Trichinella Spiralis Further Search for Infections of Man in Australia. A. J Bearup —p 673
Treatment of Pneumococcal Meningitis G A. Robbie —p 676

2 *697-732 (Nov 12) 1949*

Observations on Phonocardiography R A Green and Z Freeman. —p 697
Painful Stiff Shoulder L. T Wedlick —p 707
Macroscopic Diagnosis of Malignancy in Ovarian Tumours H F Bettinger —p 710
Study of Healed Fractures in Australian Aboriginal. T A. R Dinning —p. 712.

Tracheotomy in Bulbar Poliomyelitis—McIntosh and McLeay review observations on 90 patients with poliomyelitis admitted to an infectious disease hospital They present the general features of the whole series of cases and discuss the physiopathologic aspects, including the role of the hypothalamus and the sequels of the various derangements of function. Of the 21 patients with bulbar involvement there were 8 without respiratory paralysis Only 1 of these 8 patients required tracheotomy for severe respiratory obstruction, and this patient made a rapid recovery The remaining 13 patients all had respiratory paralysis Three of the first of these died before tracheotomy was instituted Two patients with severe pharyngeal and slight respiratory involvement recovered with postural drainage, suction and artificial feeding The other 8 patients all had severe pharyngeal and respiratory involvement and were all subjected to tracheotomy Three of these patients died in spite of tracheotomy treatment in the respirator and transfusions, possibly from involvement of the vital centers The other 5 patients subjected to tracheotomy all made a good recovery, two requiring respirator treatment The authors feel that these 5 patients would almost certainly have died without tracheotomy Continual aspiration of the pharynx and trachea with a rubber tube of the correct caliber for the tracheotomy tube was necessary Postural drainage and turning of the patient from side to side to prevent atelectasis were found to be important adjuncts In most cases it was necessary to change the tracheotomy tube daily and in some twice daily The care of patients who had undergone tracheotomy and required treatment in the respirator presented a special problem In some patients with long necks the opening of the tracheotomy tube lay outside the collar of the respirator and in other patients inside the collar, when it was necessary to provide an airway to the exterior This was accomplished by means of a small right-angled metal tube fitting into the tracheotomy tube and attached to a length of rubber tubing passing through the collar to the outside.

Annales Paediatrici, Basel

173 345-404 (Dec.) 1949

Contribution to Pathology of New born Child and of Young Infant. C. de Lange.—p 345
Epituberculosis O Gorgenyi-Gottche —p 356
*Time of Occurrence of Complication of Pregnancy as Casual Factor of Congenital Anomalies B Grunfelder and W Lasch.—p 388

Time of Occurrence of Complication of Pregnancy as Causal Factor of Congenital Anomalies—Grünfelder and Lasch cite observations which suggest that the predisposition to certain organic defects is determined by the affinity of cells which are of the same embryonal age, regardless of the later position in the body In postmortem studies on monsters, they observed that, in those with a defective rhinencephalon, developmental anomalies were present also in the adrenals and in the genitalia They deduced that, if a noxious factor acts on the maternal organism at a time when the embryonal development of certain organs begins the development of the first anlage is inhibited and this may lead to permanent anomalies *in these organs Experimental investigations on hen eggs and* rats were interrupted by war but, when the authors learned about the effects of rubeola in the mother during a certain stage of her pregnancy on congenital cataract and other anomalies in the offspring, they recalled the frequent concurrence of tumor of the pineal body and pubertas praecox or the occurrence of genital and adrenal symptoms in the presence of pineal tumors They review data on 26 cases of this type. They believe that the reports from mothers of children with anomalies such as cardiac defects, cataract, harelip, luxation of the hip joint and the like, and the material they collected from the world literature support their view that the time when damage occurs during pregnancy is of much greater importance for the development of congenital anomalies than the nature of the damaging agent. It appears that rubeolae produce the typical congenital malformations only if the infection or toxic agent affects the maternal organism during a specific time of pregnancy, i. e., when it occurs during the initial stage of the embryonal development of certain organs or organ systems

Bruxelles-Medical, Brussels

29 3501-3554 (Dec. 4) 1949 **Partial Index**

Narcoanalysis P Cossa.—p 3511
*Surgery of Toxic Goiters R. Berger —p 3523

Surgery of Toxic Goiters—Berger performed subtotal thyroidectomy in one stage on 700 patients with hyperthyroidism The postoperative mortality rate was little more than 0 5 per cent. Preoperative treatment consisted of bed rest for twelve days, administration of phenobarbital and quinidine sulfate and 30 drops of a 10 per cent iodine solution every day for ten days Postoperative treatment consisted of the administration of 5 to 7 mg of thyroxin immediately after the removal of the thyroid This dose prevented a postoperative thyroid crisis in the majority of patients Postoperative administration of thyroxin was based on the author's concept, supported by experimental and clinical experience, that the thyroid crisis is the result of hypothyroxinemia The postoperative crisis manifested by hyperthermia, tachycardia and restlessness associated with anxiety, occurring in spite of postoperative treatment with thyroxin, may be the result of too low a dose of thyroxin or may be a toxic reaction from an overdose of thyroxin. Differentiation between these two types of postoperative thyroid crisis was carried out satisfactorily by comparison of the amount of sugar in the blood before and after thyroidectomy An increase in content of more than 20 per cent after thyroidectomy indicates a reduced thyroxin level of the plasma. A woman aged 46, whose basal metabolic rate was 72 per cent before thyroidectomy, was given 7 mg of thyroxin after the operation, she did not have any postoperative reaction The sugar content was 118 mg per hundred cubic centimeters on the evening before the operation and 122 on the first postoperative day A woman aged 33, with diffuse toxic goiter and a basal metabolic rate of 64 per cent was given 5 mg of thyroxin postoperatively A postoperative crisis occurred on the first postoperative day The temperature and heart action were restored to normal by a supplementary dose of 4 mg of thyroxin The third patient, a woman aged 38 with a diffuse toxic goiter and basal metabolic rate of 72 per cent, was given 7 mg of thyroxin after the operation The postoperative increase of blood sugar was only 7 per cent but a postoperative crisis occurred, suggesting that the dose of thyroxin was too high Treatment with 10 per cent iodine solution was resumed with satisfactory results

Paris Medical

2 537-548 (Dec. 3) 1949 **Partial Index**

*Puncture Biopsy of Lung G Giraud P Cazal and F Boyer —p 537
Syringe Transmitted Infection and Its Prophylaxis J Boyer —p 539

Needle Biopsy for Lung Lesions—According to Giraud and co-workers needle biopsy offers considerable aid in the differential diagnosis of neoplasm, tuberculosis and syphilis of the lung in patients who present a distinctly limited, homogenous dense shadow on roentgenologic examination. Pulmonary abscess pulmonary cyst or signs of a hemorrhagic syndrome are *contraindications to needle biopsy An intramuscular injection* of 50 mg of vitamin K should be given twelve hours before the puncture. The needle biopsy should be performed under local anesthesia. The patient is asked to hold his thorax in forced expiration, so that a maximum of air is exhaled and the pulmonary lesion is drawn as near as possible to the costal wall. The trocar then passes through the pleura and the lung into the lesion under fluoroscopic control. Diagnosis of pseudoneoplastic tuberculosis of the right apex in a man aged 54, of cancer of the bronchioles near the hilus at the right apex in a man aged 59, and of pulmonary metastasis of a perirenal sarcoma in a man aged 50 was established by needle biopsy. Mutilating surgical intervention was prevented by the biopsy in the patient with pseudoneoplastic tuberculosis. Needle biopsy was well tolerated. There were no untoward complications.

Prensa Médica Argentina, Buenos Aires

36 1589-1632 (Aug 19) 1949 **Partial Index**

*Acute Pulmonary Heart E S Mazzei —p 1599

Acute Cor Pulmonale—According to Mazzei acute cor pulmonale is caused by sudden hypertension in the pulmonary circulation followed by insufficiency of the right heart. It may be caused by pulmonary embolism, rupture of an aortic aneurysm into the pulmonary artery, spontaneous pneumothorax causing acute suffocation and acute diaphragmatic herniation with compression of intrathoracic structures. Pulmonary embolism results from postural phlebothrombosis, in which the blood platelets pass through three progressive stages, agglutination, viscous metamorphosis and intravascular precipitation of fibrin with consequent formation of a thrombus. The deep veins of the calves and of the sole are the usual source of emboli. There is no inflammation of the walls of the veins. The thrombus made up of platelets, only adheres slightly to the walls of the veins with a viscous hyaline substance and is easily detached. The cardiac complications of embolism are (1) the so-called massive embolism with sudden death and (2) the acute form causing death or circulatory insufficiency. The clinical symptoms and roentgen signs of acute cor pulmonale permit recognition of the condition. The electrocardiograms in acute cases with shock resemble those of acute coronary insufficiency.

Revista de la Asociación Med Argentina, Buenos Aires

63 465-512 (Oct 15-30) 1949 **Partial Index**

*Streptomycin in Pediatric Diseases J P Garrahan and J M Albores —p 468
Streptomycin in Pulmonary Tuberculosis R F Vaccarezza —p 471

Streptomycin in Diseases of Children—Garrahan and Albores report gratifying results obtained from administration of streptomycin in 163 infants and children treated the past three years. Streptomycin controls meningitis caused by Hemophilus influenzae and whooping cough in almost all cases. Streptomycin is effective in diarrhea, urinary infection and inflammations of the respiratory passages. It is valuable in tuberculous meningitis, in miliary tuberculosis and in other types of tuberculosis. The improvement in these cases is rapid. Streptomycin does not cure all cases of tuberculosis in infants and children. It is advisable to continue observations on the therapeutic value against tuberculosis, of streptomycin alone or combined with sulfones or with para-aminosalicylic acid.

Scandinavian J of Clin & Lab Investigation, Oslo

1 177-262 (No 3) 1949 **Partial Index**

Polarographic Determination of Magnesium in Serum by Aid of 8 Hydroxyquinoline O Walaas —p 187
Endogenous "Creatinine" Clearance E Blegen H N Haugen and K Aas —p 191
*Endogenous Formation of Carbon Monoxide in Man Under Normal and Pathologic Conditions T Sjöstrand —p 201
Determination of Total Amount of Hemoglobin in Anemia and Polycythemia T Sjöstrand —p 215
Enzymatic Method for Determination of Uric Acid by Ultraviolet Spectrophotometry E Praetorius —p 222

Endogenous Formation of Carbon Monoxide—*Sjöstrand* described a method in 1944 and 1948, which made it possible to determine the carboxyhemoglobin concentration by analyzing the carbon monoxide concentration of the alveolar air. It was assumed that the carbon monoxide detected originated *from the* atmospheric air, but later it was found that the alveolar carbon *monoxide* concentration varies considerably in the presence of various pathologic conditions. It was found that carbon monoxide in a concentration of 0.0015 to 0.0030 per cent can be detected in the alveolar air when the subject is inhaling 100 per cent oxygen. Even during the respiration of ordinary air it is possible to show a carbon monoxide concentration of about 0.0003 per cent. Persons who breathe through a carbon monoxide filter for five or six hours show no decrease in the alveolar carbon *monoxide* concentration. The author also determined the amount of carbon monoxide exhaled during periods of two and a half to three hours in 3 persons and found that it was 0.5, 0.65 and 1 cc per *hour*. *These observations* seem to show that carbon *monoxide* is constantly being formed in the human body. The alveolar carbon monoxide concentration is fairly similar in different healthy persons, although it shows a certain correlation to body weight during the growing age and to the total hemoglobin in adults. In pathologic conditions the alveolar carbon monoxide concentration may be increased to seven times the normal value. Increases have been discovered in cases of polycythemia, pernicious anemia, aplastic anemia, hemolytic anemias, in connection with blood transfusions, hemolysis after transurethral prostatic resection and venous thrombosis. It appears that this endogenous carbon monoxide formation is associated with the decomposition of blood cells in the organism.

Schweizerische Zeitschrift fur Tuberkulose, Basel

6 337-444 (No 6) 1949 **Partial Index**

Pathogenesis and Pathologic Anatomy of Tuberculosis in Cattle W Frei —p 337
Transmission of Bovine Tuberculosis P Kästli —p 353
Results of Typing of Tubercle Bacilli During Period of 1946 to 1949, with Fundamental Remarks on Problem of Typing A Grumbach —p 364
*Human Tuberculosis of Bovine Origin E Urech —p 383

Human Tuberculosis of Bovine Origin—According *to* Urech, the bovine bacillus of tuberculosis enters the human organism through either the mouth or the intestines. Many instances of tuberculosis of cervical lymph nodes are due to Mycobacterium bovis. An abdominal primary complex was demonstrated by Uehlinger on necropsy of 32 per cent of contaminated children. Fifteen of 100 school children with a positive Mantoux reaction, who were examined in a certain region of the Swiss Canton of Vaud, presented a primary complex in the thorax, 6 presented a cervical primary complex and 41 an abdominal primary complex. Results of roentgenologic examination were normal in one third of the instances of primary intestinal adenitis. The type of the bacillus could be determined in *only 1 per cent* of these lesions. The incidence of primary tuberculosis of bovine origin of the intestines cannot be determined by bacteriologic examination. The intestinal lesions are benign and are limited to mesenteric adenitis. Not a single death occurred among 180 patients with primary mesenteric adenitis, and complications such as erythema nodosum, tuberculous abscess of the right iliac fossa, mild tuberculid and tuberculosis of the knee occurred in only 7 instances. Complete recovery usually takes place, except in children aged less than 3 or 4 years, in *whom the* disease has a grave and frequently fatal course. Twenty-nine of 114 children who died from tuberculosis in Lund, Sweden, had their initial lesion in the abdomen, and 22 of them were aged less than 3 years. Intestinal infection is characteristic of *tuberculosis* in infants. Aerogenic infection in man in general is caused by Koch's bacillus. The virulence of the human and of the bovine type of the bacillus of tuberculosis is the same, but it is conditioned by the point of entry, being less severe by the intestinal route. Hedwall reports 94 patients with bovine tuberculosis, 53 of whom presented lung lesions. Unpasteurized milk and other milk products, such as cream butter and soft cheese, play a part in the transmission of bovine tuberculosis to man, but pasteurizing of milk is to be considered as only a temporary and unsatisfactory solution of the problem. An energic campaign against bovine tuberculosis and against the bacillus-infested milk products is indispensable, because 50 per cent of the cases of tuberculosis in juvenile persons in Switzerland are caused by the bovine Mycobacterium, which is progressively replacing tuberculosis of human origin in children.

Book Notices

The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated

An Atlas of Amputations By Donald B Slocum M D M S Orthopaedic Surgeon Sacred Heart General Hospital Eugene Oregon Cloth $20 Pp 562 with 561 illustrations The C V Mosby Company 3207 Washington Blvd St Louis 3 1949

As explained by the author an amputation is more than the mere removal of an extremity, although that is the dictionary definition Usually, it refers to the removal of a portion of an extremity through the continuity of the bone If the limb is removed at the site of a joint, the correct term would be "disarticulation' For all practical purposes however any surgical removal of any part of an extremity or of an entire extremity, must be classed as an amputation This volume is beautifully written and adequately illustrated Every type of amputation which has been used by surgeons of the present or past generation is described after a discussion of the etiologic factors which may make the amputation necessary and the indications for a particular amputation

The author was in charge of an amputation center during the war The influence of the teaching with regard to selection of amputation procedures and technics which were adopted throughout most of the war areas can be noted in every chapter of this book The book will be of great value when used for problems encountered in combat, after a major catastrophe during peace time or in the practice of any surgeon engaged in civilian practice The development of technics of chilling or freezing severely crushed or gangrenous extremities makes possible definitive surgery which does not have to be hurried The majority of the civilian surgeons who have had ample experience with amputation problems will prefer to complete the job at the first operation and should have sufficient judgment to know where to amputate and when to amputate, in order to obtain primary healing Rarely will it be found necessary to perform open amputations

Many amputations are described which the author himself does not recommend This is particularly true of the amputations through the midtarsal areas of the foot While it may be true that in a complete reference work on amputations all of these should be included and described more detailed criticism of less desirable operations would enhance the value of the book as a whole The chapter on prostheses is well written and illustrated The rehabilitation program by which the Army and now the Veterans Administration have trained each patient to use with maximum efficiency a particular prosthesis, is presented most effectively and will be of great assistance to all physicians who are interested in helping their patients to obtain the maximum degree of functional recovery

Nutrition & the Soil Thoughts on Feeding By Dr Lionel James Picton O B E Introductory Essay on Creative Medicine by Dr Jonathan Forman F A C A Cloth $4 Pp 374 with illustrations Devin Adair Company Publishers 23 & 25 E 26th St New York 10 1949

The essence of this book is expressed in the subtitle, Thoughts on Feeding" for the book contains little in the way of facts concerning modern nutrition but much in the way of thoughts and opinions The author definitely belongs to that vociferous cult that believes better nutrition is a panacea for mankind s ills and that better nutrition can best come from improved soil, with the use of organic fertilizers Most persons with enough intelligence to read the newspaper are no doubt aware that improved soil means better crop yields, but few realize that there is little evidence to show that better soil improves the nutritive quality of the produce grown in the soil I do not wish to depreciate the contribution which modern nutrition has made to medicine and public health Nutrition is probably the single most important environmental factor affecting one s health However, this book consists of thoughts" and not facts, and when it comes to the question of soil fertility and the nutritive quality of the foods produced, there simply is no evidence to support any positive effect.

Undersøgelser over Aneurinudskillelsen i Urinen hos sunde og syge Børn By Annie Schondel [Studies on Thiamine Excretion in Urine in Healthy and Sick Children With a Summary in English.] Denne afhandling er af det lægevidenskabelige Fakultet ved Københavns Universitet antaget til offentlig at forsvares for den medicinske Doktorgrad 1948 Paper Pp 199 with 13 illustrations Einar Munksgaards Forlag Nørregade 6 Copenhagen K 1948

This book is Dr Schondel's doctoral dissertation It reports the study of the daily urinary thiamine excretion of healthy infants and children given customary hospital or institution diets, compared with the excretion of 20 normal adults and of a large number of children suffering from various diseases Urinary thiamine excretion was determined also after administration of 1 mg of thiamine to children under 3 years of age and 2 mg to older children For this study twenty-four hour determinations were recorded for several days after the thiamine administration The thiochrome method of Westenbrink and Goudschmidt was used throughout, and the data were treated statistically No correlation was observed between thiamine and body weight, sex or season The data for the normal group are summarized here

Age (Yr)		No of Subjects	No of Determinations	Urinary Thiamine Micrograms in 24 Hr	
				Range	Mean
< 1*		34	103	2 to 94	37
1 to 3		15	86	61 to 123	80
3 to 14	Female	23	289	74 to 319	213
	Male	39		118 to 316	
Adults	Female	10	53	49 to 295	166
	Male	10	47	137 to 218	177

* Artificially fed

The daily intake of thiamine approximated 58 micrograms per hundred calories After the loading test, infants under 3 months excreted an average of only 6 per cent of the test dose and those 3 to 6 months old 8 to 9 per cent Children of the age groups from 6 months to 14 years excreted about 15 per cent of the test dose.

The author concludes that, except for young infants, the Danish diet which contains 40 to 78 micrograms of thiamine per hundred calories, is adequate in thiamine content The thiamine excretion of diabetic children was within the normal range Hepatitis and celiac disease may lead to hypovitaminosis The thiamine content of special diets must be watched

The booklet contains considerable useful detailed information and an excellent bibliography

Epilepsy and Convulsive Disorders in Children By Edward M Bridge M D Research Professor of Pediatrics School of Medicine University of Buffalo Buffalo N Y Cloth Price $8 50 Pp 670 with illustrations McGraw Hill Book Company Inc 330 W 42d St New York 18 Aldwych House Aldwych London W C 2 1949

This is an extensive clinical study and discussion of the etiology manifestations diagnosis and treatment of convulsive disorders in children Its great virtue lies in the fact that the author has stressed the importance of the many factors which bear on this complex problem and on the successful management of the individual case He has discussed in detail and with admirable conservatism the significance of heredity of cerebral injury and disease, of personality, of diet and particularly of the attitude of the patient his family and his associates toward his disease He has rightly stressed that the mere prescription of one of the anticonvulsant drugs does not constitute satisfactory treatment of these diseases. He has emphasized the importance of a clear understanding of the disease and its problems by the parents and teachers and by the patient so far as is possible. He has discussed in detail the problems of proper regulation of medication and the general activities of the patient and the importance of the child s achieving as normal and active a life as possible, with few deviations from the usual, as they impress on the child that he is different, is an invalid and is inferior to his associates

The book is much too long verbose and repetitious The presentation of the bibliography at the end of the book and at the end of each chapter is a needless waste. There is no purpose served in reproducing figure 4 page 72 again on page 575 It is difficult to understand the author s purpose in discussing the effects of thrombosis of various major cerebral arteries in a book of this kind Furthermore, the text on the effects of occlusion of the anterior cerebral artery is incorrect.

Few workers in the field would agree that their experience supported the statement in this series of cases that there was 'no evidence of brain injury in only 30 per cent of children with epilepsy Many experienced clinicians would disagree that "simple petit mal are usually made worse" by properly given bromides The statement on page 291 that only potassium bromide need be prescribed is hardly in keeping with the prescription on page 610, which lists both potassium and ammonium salts Few would agree that children require "proportionately less" phenobarbital than adults One cannot agree that the 'ketogenic diet is a powerful therapeutic weapon for use in epilepsy in children," that the results of its use are "as satisfactory as with the drugs in common use," or that it "deserves a conspicuous place among the measures available for the relief of epilepsy in children" The uncritical brief discussion of the surgical treatment of convulsions arising from localized cerebral lesions is unfortunate as is the emphasis on the value of the electroencephalogram to the clinician There are several errors in the outline of a neurologic examination on page 573

The whole tone of the book, the "pictorial table of contents" at the beginning of each chapter, the dulling repetition, the inaccuracies, the superficial discussions of important problems such as surgical treatment and the extensive charts with 1 +, 2 +, 3 + and 4 + gradings which are presented in the appendix, suggest that it probably has been prepared with parents and social workers as well as physicians in mind The author has had a wide experience, he has a broad view of his problem, and in his attitude toward the management of these unfortunate patients he has a valuable lesson to teach

Introduction to Microorganisms By LaVerne Ruth Thompson R N, M A M S Assistant Professor of Nursing Education Teachers College, Columbia University New York Second edition Cloth Price $4 25 Pp 174 with 73 illustrations W B Saunders Company 218 W Washington Sq Philadelphia 5, 7 Grape St Shaftesbury Ave, London W C 2, 1949

Many books have been published as an introduction to microorganisms, and several have emphasized bacteriology and public health In this book, which was written for the student whose chief interest lies in the field of health and welfare instead of in bacteriology per se, Miss Thompson has achieved her objective This book is written in simple language, and introductory chapters are so organized that no previous knowledge of the subject is necessary Then, as new ideas are incorporated and developed, they are placed in the succeeding chapters of the book, thus the student acquires essential terms as the subject progresses

Each section in the book is concise, easy to read and adequately illustrated The present edition according to the author has been brought up-to-date by the addition of such topics as infectious hepatitis, epidemic diarrhea, virus pneumonia, BCG vaccine and streptomycin This book is a valuable aid in an introductory study of micro-organisms, particularly for those who may not be concerned with the detailed study in bacteriology but may be interested mainly in the subject of public health

Citrus Products Chemical Composition and Chemical Technology By J B S Braverman, Director of Research, Central Citrus Products Research Laboratory, Rehovoth Israel Cloth $9 Pp 424 with 106 illustrations Interscience Publishers Inc 215 4th Ave, New York 3, 2a Southampton Row, London, W C 1, 1949

There have been few books written covering the field of citrus technology, and most of them are now outdated This book is the only current publication in English concerning this important field It is based on twenty-five years of experience by the author, who is now Director of Research of the Central Citrus Products Research Laboratory, Rehovoth, Israel

The introduction to the book provides a short history of the citrus industry and touches briefly on the botany, cultivation and marketing, and diseases of citrus fruits The main body of the book is divided into two parts Part I covers the chemical composition, taking up each portion of the fruit separately Included in this section is a discussion of vitamins, with particular emphasis given to vitamin C Part II covers the chemical technology of the citrus fruit and its by-products, such as peel oils, canned juices, concentrates, marmalades, citric acid and pectin An attempt is made to cover operations in this country as well as in Palestine and several other countries

The author evidently has not had an opportunity to observe American practices recently, and some of the methods and equipment discussed are no longer in use in this country For instance, nothing is said about the developments in the frozen concentrated juice industry and in juice deoilers

This book will be found particularly valuable by students and research workers in the field of citrus products It can be highly recommended to the physician who desires information concerning the technology of citrus products

Elsevier's Encyclopædia of Organic Chemistry Series III Carboisocyclic Condensed Compounds Edited by E Josephy and F Radt Volume 12 A Bicyclic Compounds (Except Naphthalene) Volume 12 B (Edited by F Radt) Naphthalene A Compounds Containing One Naphthalene Nucleus Pages 1 344 Hydrocarbons and Halogen Compounds Pages 345 1052 Nitrogen Compounds Cloth $104 $32 $64 for subscribers to Series III $91 $28 $56 for subscribers to complete work $78 $24 $48 Pp 1262 344 345 1052 Elsevier Publishing Company, Inc. 215 Fourth Ave New York 3 118 Spuistraat Amsterdam C 1948 1949

A general description of the proposed scope and purpose of this encyclopedia appeared in THE JOURNAL (page 1513) Aug *23 1947* when volume 14 the first to be published was reviewed Volume 13 was reviewed in THE JOURNAL (page 270) Jan 22 1949 Those volumes were concerned with tricyclic tetracyclic and higher cyclic compounds Volume 12 presents bicyclic substances which completes the series of carboisocyclic condensed compounds

The tremendous number of substances considered necessitated a division into volumes A and B The former includes all bicyclic compounds except those with the naphthalene skeleton which are contained in 12B References are included through 1944 although structures of compounds are considered to the time of printing Volume 12A covers such individual compounds as the thujanes carnanes and carenes indenes and the D vitamins azulenes anthelmintic compounds fenchenes, camphenes bornylenes camphanes and their numerous derivatives Volume 12B gives extensive data for naphthalene, its halogen and nitrogen derivatives including tetralin alkylnaphthalenes nitronaphthalenes, naphthylamines and in turn, their derivatives

Brief comments are made and many references are quoted concerning physiologic properties and toxicity of many compounds Because of this feature, these volumes should serve as a *preliminary reference for physiologists, pharmacologists* and toxicologists interested in the effects of a specific substance.

Studies in Air Hygiene By R B Bourdillon and others Medical Research Council Special Report Series No 262 Paper Price 7s 6d. Pp 356 with 104 illustrations His Majesty s Stationery Office York House Kingsway London W C 2, 1948

The fear that World War II might be associated with great epidemics of influenza and other "air-borne" infections led to the organization in London in 1940 of a team of investigators under the direction of the late Sir Patrick Laidlaw to explore new means of air hygiene After Laidlaw's death, the direction of the work fell to Dr C H Andrewes and later to Dr R B Bourdillon Report 262, which the Medical Research Council justifiably calls "a landmark in the study of air hygiene," is a collection of 44 papers by members of the group, plus an appendix dealing with certain technical aspects of the work.

The first 12 papers deal with the problem of air sampling The ingenious and useful "slit sampler" invented by Dr Bourdillon provides the background for most of these papers Theoretical and practical problems presented and solved by the slit sampler are discussed and the various "models" of the sampler described Though the slit sampler has not been employed in work on *air-borne* infection in the United States, there is no doubt that it is one of the most important tools so far developed in this field Its particular merit is that it permits the bacteriologic content of the air to be measured continuously and accurately before, during and after the use of bactericidal agents

"Air Disinfection by Chemicals" is the title of the second section of the report Herein are described the experiments carried on in the search for a chemical agent which would fulfil the rigid requirements for a 'perfect' air sterilizing agent Though the ideal compound has not yet been found much progress has been made The British and American workers are in agreement that the action of these chemicals which are effective against air borne micro-organisms in concentrations of micrograms or even fractions of micrograms per liter of air, occurs when the chemical in vapor phase condenses on the air borne particle. Thus it is incorrect to speak of these chemicals as 'aerosols' In the United States, propylene and triethylene glycol have been the subjects of most of the investigations of bactericidal vapors Bourdillon and his group explored the properties of a long list of compounds of which lactic acid and alpha hydroxy alpha methyl butyric acid are the most promising Both appear to be active against air-borne bacteria carried in dry particles a property not shared by many air-sterilizing' agents

Studies with ultraviolet rays attracted some attention Actually the limitation placed on its usefulness by the restriction of irradiation to the upper third of a room because of danger to the eyes was well recognized Other methods of air disinfection studied included the use of heat (especially for the air of laboratories dealing with dangerous pathogens) the passage of air through filters and the use of masks

Dr Bourdillon and his group appreciate the great difficulties which lie in the way of determining just how much respiratory infection is strictly air borne However they rightly point out that there is much justification for attempting to reduce the load of air borne micro organisms by the methods now at our disposal Though no data concerning the infecting dose of respiratory pathogens for human beings are available, animal experiments have shown that both the severity and mortality of air-borne infections are directly influenced by the dosage of virus or bacteria They discuss also the argument that reduction of air borne bacteria is bad because it will ultimately impair human immunity to these pathogens They do not hold with this argument and point to the perhaps debatable analogy with water hygiene to support their contention This reviewer is in accord with their general conclusions Though in the case of such infections as measles and chickenpox it is advisable for children to develop immunity by having the clinical disease before they are fully grown there is no evidence that this principle applies to common respiratory pathogens Furthermore, no means of air disinfection is likely ever to accomplish 100 per cent reduction in the air borne micro organisms in all places where human beings meet

X Ray Treatment Its Origin Birth and Early History By Emil H Grubbé B S M D F A C P Cloth $3 Pp 153 with 51 illustrations The Bruce Publishing Company 2642 University Ave St Paul 4 Box 1586 Minneapolis 1949

This unusual book recounts the history of the application of roentgen rays in medicine The author was a pioneer in roentgenology and one of the first victims of the rays he presents evidence that he was probably the first person in whom the ominous dermatitis was discovered and he believes that his survival after fifty years of the painful and mutilating consequences is to be explained mainly by his patient submission to the inevitable repeated surgical operations The pages (81 to 89) in which his convictions on this point are expressed are among the most poignant in medical literature and they deserve to be read by every student The author believes that the discovery of this dermatitis in himself led to the idea of a therapeutic use of the rays There are some sobering lessons in his account of early experiences with the treatment of cancer The book contains some valuable photographs illustrating the beginnings of roentgenology There are a few erorrs (e. g the implied separation of roentgen rays into alpha beta and gamma rays page 65) that might confuse a student, but the book is not intended as an introduction of radiology and has been written under extraordinary difficulties It deserves to be widely read by physicians and laymen also, for too many persons today avail themselves of modern medical technics without appreciating the price that medical investigators have often had to pay for their discoveries

The 1948 Year Book of Obstetrics and Gynecology Edited by J P Greenhill B S M D F.A C S Professor of Gynecology Cook County Graduate School of Medicine Chicago Cloth Price $4 50 Pp 603 with 111 illustrations Year Book Publishers Inc 304 S Dearborn St. Chicago 4 1949

It is difficult to present a new review of an annual book which has now become a standard volume for reference. As all medical readers know, the yearbooks are collections of abstracts arranged by subject matter and their value in each specialty is determined first by the quality of the original contributions second by the selection of papers to be abstracted and finally by the comments of the editor The selection of material in the 1948 volume is adequate for the average clinician the abstracts are tersely and ably written It is in editorial comment that Greenhill excels His really stupendous knowledge of the literature to which is added a large practical clinical experience begun under the arch conservative De Lee, fit him perfectly for his duties His comments are forcefully written, amply documented by references to earlier literature and occasionally illuminated with flashes of humor or sparks of anger Perhaps the editor's distinctive contribution is the sense of proportion and balance which his remarks provide. They enable even the tyro to assess fairly the work reviewed They give the workaday book personality—a pleasant personality All who practice gynecology and obstetrics should have these yearbooks within arm's reach

Manual of the International Statistical Classification of Diseases Injuries and Causes of Death Sixth Revision of the International Lists of Diseases and Causes of Death Adopted 1948 Volume I Bulletin of the World Health Organization Supplement I Paper Pp 376 World Health Organization 350 5th Ave New York 1 Geneva Switzerland 1948

This volume maintains traditions established by the International List of Causes of Death It provides a single list applicable to morbidity and mortality statistics For the first time international agreement is expressed in a uniform method of selecting the principal cause to be tabulated if more than one cause is stated on the death certificate

The manual establishes international standards for coding diseases and for carrying out large scale statistical studies It can be used as an instrument for centralizing medical statistical data. It is not intended for use in hospital filing and reference work The diagnostic breakdown is much less specific than that of a disease nomenclature The "Standard Nomenclature of Diseases and Operations" is undergoing revision for republication in 1950 The new volume will contain code numbers of the international manual (parenthetically) for cross reference.

Medizinische Klinik Ein Fortbildungskurs für Arzte Von Prof Dr Ferdinand Hoff Chefarzt der medizinischen Klinik der Städtischen Krankenanstalten Aachen Half cloth Price $9 Pp 467 with 74 illustrations Georg Thieme Diemershaldenstrasse 47 Stuttgart O Imported by Grune & Stratton Inc. 381 4th Ave New York 16 1948

This book consists essentially of a presentation of 109 medical case-histories of a most varied and instructive sort, including particularly cases of diseases of the heart, blood-forming organs, blood vessels, kidneys and organs of digestion and internal secretion Cases are chosen to illustrate both rule and exception in diagnostic problems, they are explained by illuminating commentaries and are made accessible by good indexing This book abounds in suggestions for the general practitioner and the internist

Textbook of Medicine By Various Authors Edited by Sir John Conybeare K B E M C D M Physician to Guy s Hospital London Ninth edition Cloth Price $8 Pp 875 with 28 illustrations Williams & Wilkins Company Mt Royal & Guilford Aves Baltimore 2 1949

This well known textbook has been revised extensively The book differs somewhat in form from American textbooks in that space has been alloted to both pediatrics and dermatology It places great emphasis on diagnosis by clinical study, with discussion of laboratory technics limited to a minimum Contributions by eighteen outstanding British physicians provide an excellent picture of British medical opinion regarding common diseases In general, the volume appears somewhat less comprehensive than most American textbooks ment may be in the patient's favor, while the early development of nodules is generally regarded as an unfavorable feature Although more nodules may develop, there is no likelihood, if they are of rheumatoid origin, that they will appear over the entire body

RECURRENT PYELONEPHRITIS

To the Editor —A white man 20 years of age has had four episodes of hematuria every four years, during which he has high fever, chills, poor appetite and constant urgency but no straining on urination The ratio between the dextrose and nitrogen of the urine is from 6 1 to 8 1 He has had scarlet fever, streptococcic infections of the throat and measles, the last at the age of 6 years Family history does not provide anything of importance The blood pressure is 120 systolic and 78 diastolic Neither kidney is palpably enlarged, but the prostate seems to be slightly fibrotic at the base Both seminal vesicles feel fibrotic Urine examination reveals 1 015 specific gravity, 3 plus reaction for albumin, many red blood cells and pus cells but no casts Repeated stained urine smears have not revealed pyogens or acidfast bacilli Cystoscopic examination showed a slightly hyperemic and enlarged prostate, a bladder normal in appearance, and blood from both ureters On catheterization pus and blood were obtained from both kidneys The pyelogram showed good calycinal cupping, no evidence of tumor or stones and some haziness to the calyces, which was thought to be due to chronic infection Prostatic secretion contained many red blood cells but organisms could not be demonstrated on repeated examinations The blood urea nitrogen level was 27 4 mg per hundred cubic centimeters The rate of phenolsulfonphthalein excretion was 40 per cent the first hour and 10 per cent the second The patient received eight doses of 0 06 Gm of oxophenarsine hydrochloride intravenously Bleeding ceased after the second injection but the pyuria has been worse Three urine cultures have been negative for acid-fast bacilli, and one urine culture has been reported to show Aerobacter aerogenes and Salmonella enteritidis Another showed A aerogenes and Salmonella paratypi B Suggest the cause and treatment of pyuria and hematuria

M D , Louisiana

Answer —The association of hematuria and pyuria with chills, high fever and urinary urgency suggests recurrent acute pyelonephritis The pyelographic observations the positive urine cultures and the early renal functional impairment suggest a bilateral, chronic renal infection on which the acute episodes are superimposed The inflamed, congested pelvic mucosa is probably the source of the bleeding Unless the hemorrhage is serious or leads to painful or obstructing clots, local treatment by irrigation via ureteral catheters is not indicated On general principles the patient's coagulation, bleeding and prothrombin times should be checked, although probably they will be within normal limits The source of the patient's urinary tract infection was probably hematogenous originally, and no focus may be demonstrable now However, the nasal sinuses should be investigated and the prostatic secretion cultured

Aerobacter aerogenes is a difficult organism to overcome, because it may not respond to sulfonamides or streptomycin, but aureomycin and chloramphenicol have been reported to be more effective against certain strains Each should be tried, empirically, in full dosage and repeated negative urine cultures should be considered the criterion of efficacy Treatment should be continued for a week or so after the urine remains sterile The patient should not be allowed to become constipated or exposed to gastrointestinal irritation, since the urinary bacteria may originate in the bowel His pyelonephritis is likely to continue smoldering for years and gradually lead to serious renal impairment Prompt treatment of acute recurrences will be an important factor in his prognosis The diet should be adequate to maintain good nutrition and counteract anemia

DETERMINATION OF PROTHROMBIN TIME

To the Editor —Please comment on the determination of prothrombin time in the laboratory of a small hospital It is my understanding that commercial thromboplastin is now available on the market At least, one of these has been advertised for some time in *The Journal* Some workers feel that it would be difficult to use a commercial thromboplastin with the expectation of securing accurate and consistent results Please discuss this

Thos C McVeagh, M D , South San Francisco, Calif

Answer —In the small as well as in the large hospital laboratory, the primary considerations regarding performance of a test for prothrombin time should be accuracy of technic and reproducibility of normal values A full knowledge of the limitations and implications of the standard tests and their modifications which are currently in use is of great importance in interpretation of results The tests which have found most favor in clinical laboratories are the "one stage" test of Quick and the "two stage" test of Warner, Brinkhous and Smith, both of which have had numerous modifications

Although some investigators feel that it is necessary for the clinical laboratory to prepare its own thromboplastin from animal tissues in order to obtain a reagent which is maximally active and stable, it has been reported in the literature and has been found from clinical experience that several of the commercial products are sufficiently stable and pure to give reproducible results in the hands of a competent technologist A trial should be made of several different commercial thromboplastins, under identical conditions, to determine the one which will give the most consistent results with normal plasmas, these results should be reproducible from one lot of thromboplastin to another One may best determine the activity of a particular thromboplastin preparation by averaging the results obtained from at least five normal, nonicteric plasmas, this activity should be checked at least weekly and preferably daily The best preparation is one which will give a prothrombin time with normal plasma under 15 seconds, preferably 11 to 12 5 seconds

For a discussion of the importance of rigidly standardized technics and reagents and understanding of the statistical significance of variations occurring in the prothrombin time test, one should consult the paper of Aggeler, Howard, Lucia, Clark and Astaff (Standardization of the Quick Prothrombin Test, With Reference to the Statistical Significance of Variations in the Prothrombin Concentration with Use of a Stable Thromboplastin of High Potency, *Blood* 1 220 [May] 1946)

CHOLINE AND METHIONINE IN LIVER DISEASE

To the Editor —What are the relative merits of choline or methionine in liver disease?

M D , Ohio

Answer —Choline is a known lipotropic agent, it functions by entering into the composition of phospholipids, substances which are essential for the normal transport of fat from the liver to fat depots Methionine is usually regarded as similarly lipotropic in its action It is a choline precursor, furnishing labile methyl groups for the formation of this substance

Either choline or methionine may have a protein anabolic effect on patients with chronic disease of the liver, and each is thereby clinically useful, as Kinsell's recent studies show (*Ann Int Med* 29 881 [Nov] 1948) In acute lesions of the liver, the evidence is much less conclusive So far as comparative effects are concerned, little is known of their relative merits Kinsell's data do not show that methionine has any greater effect on the balance of protein than choline In the many clinical studies reported in the literature, methionine, methionine plus cystine and choline have been used most often concurrently and consecutively without really adequate controls, and, therefore, no conclusions as to their effects are permissible It is probable, as Beams stated (J A M A 130 190 [Jan 26] 1946), that these compounds affect chiefly the predominantly fatty liver and that in the nonfatty liver they have a limited range of usefulness

EFFECT OF ULTRAVIOLET RAYS ON EYES

To the Editor —A man received severe eye burns after working under ultraviolet rays for about eight hours without eye protection He now complains of almost continuous headaches If these headaches are caused by ultraviolet burns of the eyeball, how long can one expect such headaches to continue and what is the treatment? There is no objective evidence of residual injury to the eyes

J C Damitz, M D , Akron, Ohio

Answer —The effect of ultraviolet rays on eyes has been studied extensively by members of the Joint Committee on Industrial Ophthalmology, and there appears to have been no reported incidence of a case of intraocular damage due to ultraviolet rays Any external damage sustained would be clearly visible as a scar on the surface of the cornea Headaches would not be related to the clinical picture described The usual investigation of headache problems on the basis of intracranial pressure, migraine, sensitization or nasal pathology, as well as all other sources of headaches, would need to be investigated

CYSTOCELE

To the editor —I have a patient who following a hysterectomy slipped and fell She fell with her legs spread far apart, and she hit the floor forcefully After this she noticed frequency of urination I examined her about five hours later and discovered a cystocele Is there any relation between the trauma itself and the condition which I found? It seems possible that the hysterectomy might have weakened the pelvic support of the bladder sufficiently to permit such a condition following trauma

G M Palen, M D , Margaretville, N Y

Answer —A cystocele is believed to result primarily from birth trauma A cystocele most likely could not have developed within five hours of the injury described Undoubtedly, the patient's cystocele antedated the trauma

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A CRITICAL EVALUATION OF MASS ROENTGEN SURVEYS

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DAVID A. COOPER, M.D.
Philadelphia

One hears in America as well as from England that some mental reservations exist as to the value of mass surveys for the detection of tuberculosis in the light of the long waiting lists of patients with positive sputum.[1] While it is shocking that there is complacency about infectious tuberculosis there is great virtue in knowing the extent of the problem. The average citizen who finds that he has positive sputum is willing and ready to protect his contacts and to limit his own regimen for the betterment of his health. Thus the uncovering of cases of active disease results in protection of contacts and, to a limited extent in the absence of adequate facilities, in protection of the patient himself from exacerbation.

However, mass surveys to be effective in controlling tuberculosis and in uncovering pulmonary neoplasms—their chief values to date—must not be viewed as the mere taking of pictures. In the setting up of units it must be recognized that more is needed than physical equipment, a technician and a physician-reader. A definite philosophy is required. So far as the reading of the photofluorograms is concerned they must be overread not underread (fig. 1). The goal is not accurate diagnosis but the screening out of significant or potentially significant pulmonary disease. Because of the infectiousness of pulmonary tuberculosis and the seriousness of bronchogenic carcinoma all photofluorograms which reveal any of the characteristics of either entity should be read as "suspect tuberculosis" and/or "suspect neoplasm."

Thus a significant percentage of patients whose photofluorograms are considered as showing possible tuberculosis should ultimately be proved nontuberculous. For instance, an area of rarefaction should be interpreted as probably advanced tuberculosis despite the fact that it is later diagnosed as being due to lung abscess. However, no photofluorogram read as nontuberculous basal infiltration, for example, should be found to represent active basal tuberculosis (fig. 2).

Similarly, when a solitary mass, atelectasis, emphysema suggesting obstruction, mediastinal enlargement, soft infiltration or cavity associated with mediastinal shift is found, the survey film should be classified as "suspect neoplasm,"[2] especially in middle-aged men. From Aug. 1, 1948 to April 1, 1949, 0.2 per cent of 43,610 persons surveyed at the Philadelphia Tuberculosis and Health Association were so classified. Neither film reader nor clinician should be disturbed if these lesions are subsequently found to be relatively innocuous. If bronchogenic carcinoma is ever to be conquered it must be suspected earlier and handled as a medical emergency. Any persistent pulmonary infiltration not definitely diagnosed as tuberculous should be considered potentially malignant for precisely the same reason that it is wise to consider all pleural effusions tuberculous until proved otherwise (fig. 3).

Another important aspect of survey work is the population segment to be studied. While periodic roentgenograms of school children are educational the yield of significant cases is small. Of 4,059 Philadelphia primary school children surveyed in 1946, only 0.3 per cent were possibly tuberculous. To the time of writing *none has been found to have active tuberculosis*. In contrast, 8.4 per cent of 3,106 Philadelphia diabetic patients surveyed in 1946 and 2.3 per cent of 32,535 Philadelphia food handlers surveyed in 1947 showed possible tuberculosis. In 1948, 2.5 per cent of 20,903 Philadelphia industrial workers had a survey reading of possible tuberculosis while for Philadelphia General Hospital admissions and outpatients, as might be anticipated the percentage was much higher, 6.4.

Great emphasis has been placed on the fact that only apparently healthy persons are suitable candidates for surveys. While this attitude is based on the sound premise that persons with signs or symptoms deserve more careful study than a single miniature film, the fact remains that innumerable persons with symptoms fail to consult physicians but do come to survey units for photofluorograms. Also many physicians apprehensive about patients who have respiratory symptoms, hesitate to refer them for careful radiologic study because of expense.

If this situation is recognized, a properly indoctrinated survey staff can surmount the obstacles presented by these persons and their physicians in the following manner. The technician can inquire about presence of cough, chest pain and blood spitting as he prepares to take the film. Frequently this elicits voluntary information about other pulmonary symptoms. These data can be noted by the technician on the card so that the physician reading the photofluorograms can add to his "negative" report to the referring physician some such phrase as, "May we call attention to the fact that one miniature photofluorogram does not constitute ade-

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Read before the Section on Diseases of the Chest at the Ninety-Eighth Annual Session of the American Medical Association, Atlantic City, N. J., June 9, 1949.

Director of X-ray Surveys, Philadelphia Tuberculosis and Health Association and Division of Tuberculosis, Philadelphia Department of Health (Dr. Boucot) and Associate Professor of Medicine, University of Pennsylvania School of Medicine and Graduate School of Medicine (Dr. Cooper).

[1] Time Magazine, Jan. 10, 1949.

[2] Boucot, K. R.: Mass Surveys in Case-Finding Techniques for Pulmonary Neoplasms, J. Am. M. Women's A. 3: 12, 485 (Dec.) 1948.

quate study in the presence of signs or symptoms" If such persons have come to community surveys or to stationary units of their own volition, having no private physician, they can be interviewed in the same manner as patients with significant symptoms An explanation can be made of the importance of more careful studies and suitable referral made

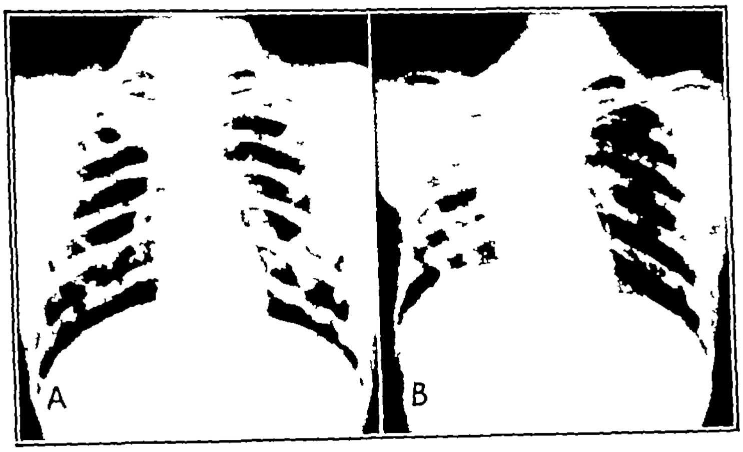

Fig 1—Photofluorograms of J H, an 18 year old white man with diabetes, who on Jan 18, 1946 was considered "suspect" on the basis of a 70 mm photofluorogram The report on a 14 by 17 inch photofluorogram taken February 15 (*A*) read "Minimal activity indeterminate,' and the report on another taken December 30, ten months later (*B*), read 'Far advanced tuberculosis with giant cavity occupying most of the upper part of the right lung, dense infiltrations throughout balance of right lung with bronchogenic spread to left second interspace" The photofluorogram revealed early pathologic changes, but the follow up reflected no confidence in the photofluorographic reading Lack of suitable clinical study allowed progression to hopeless disease

There are even a number of ex-sanatorium patients who have not returned to clinics or physicians for years but who come to surveys We have had patients of that type who had undergone thoracoplasty These persons should be interviewed, impressed with the wisdom of periodic check-up and referred to a physician or chest clinic This is a real service the survey unit can undertake The relapse rate in tuberculosis continues to be about 50 per cent

Until both the public and the medical profession are better educated, community surveys will be taking miniature films on a significant percentage of persons with symptoms and/or signs Should we not become more realistic and set up our work to guard surveys against the fallacies of sending out "negative" notifications to such persons? In industry roentgenograms are made of only 77 to 97 per cent of workers, and, in the percentage failing to report, there are most probably those workers who, being symptomatic, dread discharge from the plant if active disease is found and so fail to report to surveys Thus, the most important segment in industry may lie in the group failing to report

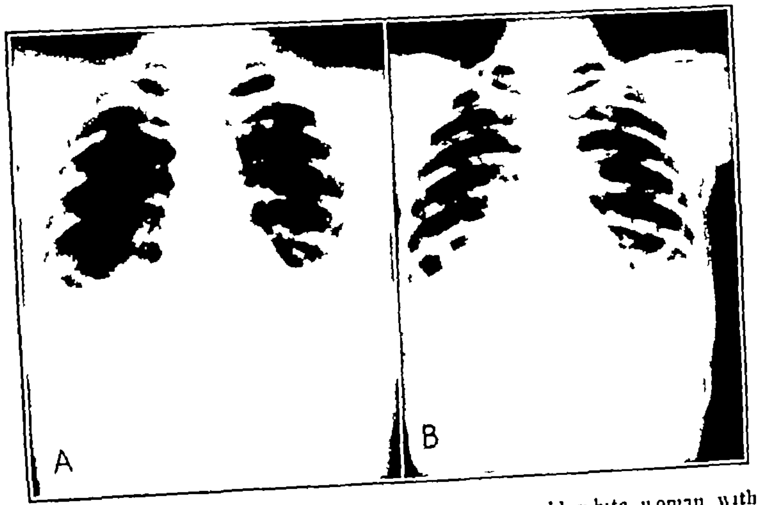

Fig 2—Photofluorograms of M R, a 25 year old white woman with diabetes The report on a 70 mm photofluorogram taken April 26, 1946 (*A*) read "Bronchiectasis(?) Infiltrations right base" Another photofluorogram Jan 31, 1947 (*B*) was taken when the patient was admitted to the Tuberculosis Ward with positive sputum and extension of disease

Consciously or unconsciously, the United States Public Health Service has recognized this situation and has shifted emphasis from the desirability of industrial surveys to the desirability of community surveys

Once the readings have been made, prompt interview of the patients with suspected disease is essential Nonchalance delays processing for weeks or months Even an intelligent person may not go promptly to a hospital or chest specialist if the suggestion is made weeks after the taking of the photofluorogram If a film appears to be of grave significance, routine should be discarded and the patient should be sent for at once and, if possible, hospitalized immediately This means personal effort on the part of the survey physician Even then it may be too late Such major decisions and vigorous action cannot be taken by clerks or even by public health nurses The interview with the patient whose photofluorogram is considered significant should be made by a physician who can explain the photofluorogram to the patient and answer questions authoritatively Too often unqualified persons strike the same anguish into the heart of a patient with minimal inactive tuberculosis as into the consciousness of a patient with far advanced active disease

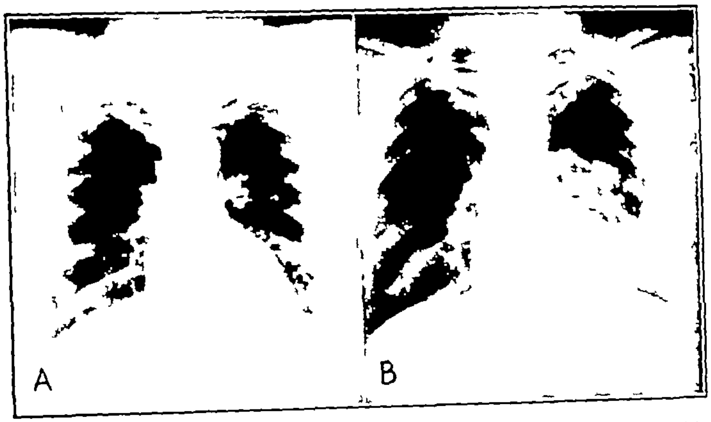

Fig 3—Photofluorograms of J B, a 47 year old white man The report on a 70 mm photofluorogram taken Feb 21, 1947 was (*A*) read "Infiltration right third interspace." Another photofluorogram taken Feb 4, 1948, one year later (*B*), revealed three rounded masses at the left hilum. The patient refused hospitalization because no symptoms were present. He died seven months later, after hemiparesis. Squamous cell carcinoma of the bronchus with cerebral metastases was revealed at autopsy

Everything connected with the interview must be done with the greatest consideration The appointment letter should arrive only the day before the interview in order that anxiety not be prolonged The appointment letter should not refer to the possibility of pathologic conditions, but should merely state, "Dr ———— has set aside ——— (date)——— to talk over your x-ray with you" It requires considerable experience to gage the exact approach to persons in order to impress them sufficiently so they will take immediate appropriate action, and yet not produce disproportionate anxiety

In the early days of our program, patients were referred to their physicians after the interview with the statement that the physician would receive a report About 20 per cent failed to report to the physician or clinic to which they had stated they would go By the simple expedient of handing to them a note on which is written their name, the name of the physician or clinic to which they are to go, the date and a brief carefully worded report of survey findings, we obtained almost 100 per cent response Like children, with a paper in hand to be delivered, they have some compulsion to complete the job

Many survey units take 14 by 17 inch (35 by 43 cm) retake photofluorograms of patients with suspected disease before interview We began with that policy but abandoned it as a routine when we became convinced of the following contraindications

1 A single 14 by 17 inch photofluorogram may be no more diagnostic of tuberculosis or bronchogenic carcinoma than a single 70 mm photofluorogram That is what virtue there is in the 14 by 17 inch survey retake lies in the interval of time between the taking of the 70 mm and the taking of the large film and in projection differences It is as impossible to make a bacteriologic or a pathologic diagnosis on a single 14 by 17 as on a single 70 mm photofluorogram

2 The follow up is immeasurably delayed unless facilities are available for immediate development of the large film at the time of interview We find 96 per cent response to our first appointment letter in contrast to 72 per cent response to our first letter requesting the patient's return for a large film. We now take 14 by 17 retakes only in suspect tuberculosis' or 'reserve diagnosis" cases

The need for proper follow-up is real Theoretically, once the person reaches the physician or clinic, the survey task has been completed However, with the press of the urgent needs of patients with symptomatic illness a significant percentage of clinicians fail to study survey cases adequately More time and effort are required to convince an asymptomatic patient to be hospitalized than to care for a patient who has reported because he seeks relief "Gaining weight, no active tuberculosis," "asymptomatic, nontuberculous" and the like are not infrequent replies to routine follow-up questionnaires, even in cases of obviously active tuberculosis Standards for follow-up examination of survey patients should include at least the taking of serial films and sputum studies, including culture If sputum is not available and the possibility of activity is real, cultures of the gastric washings should be made Facilities for tuberculin testing should be available, since it is agreed that, in all but the most exceptional instances, a negative reaction to a tuberculin test done with fresh tuberculin rules out tuberculosis

It is the responsibility of the survey team to check on follow-up for the sake of the patient, the protection of the community, the education of the physician and the perfection of the survey reader This is most dramatically obvious in hospital surveys In most instances, hospital surveys are set up in the Department of Radiology Reports are sent to the wards or clinics, and there the survey work ends If the ward physician or clinic physician is alert, appropriate studies and treatment are instituted, but, if no routine to insure such studies is extant, the patient leaves the hospital or fails to return to the clinic and the opportunity for early diagnosis and treatment has been lost The survey work was merely a gesture

One last comment needs to be made Annual roentgenograms of the chest for all adults is a feasible goal Because of the failure to find bronchogenic carcinoma in a curable stage, we would like to urge that men over age 45 be surveyed every six months

SUMMARY AND CONCLUSIONS

1 Mass surveys have virtue despite the shortage of beds for tuberculous patients, in that uncovering of infectious cases protects contacts and makes possible the inauguration of a limited type of treatment for the patient himself

2 Photofluorograms should be overread in order that all persons who could conceivably have pathologic conditions be referred for clinical check-up The clinicians, understanding this philosophy, should not feel disturbed if his studies reveal no significant disease

3 Persistent pulmonary pathologic changes not proved tuberculous should be considered potentially malignant, particularly in middle-aged men

4 While it is desirable that persons with pulmonary signs or symptoms be studied more carefully than can be done by photofluorography, it should be recognized that many symptomatic patients report to surveys Certain suggestions are made regarding a wiser handling of these patients

5 The percentage of patients with possible tuberculosis varies with the type of population segment studied —from 0 3 per cent in Philadelphia primary school children to 8 4 per cent in Philadelphia diabetics

6 A chest specialist is best qualified to interview survey patients with suspected disease He can authoritatively explain the photofluorogram, answer questions, allay anxiety and arrange for immediate hospitalization in urgent instances

7 Surveys are merely gestures unless adequate follow-up is an integral part of the survey program

8 An annual roentgenogram of the chest is advisable for all adults, but men over age 45 should be surveyed every six months

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ABSTRACT OF DISCUSSION

Dr. William Roemmich Baltimore Drs Cooper and Boucot suggest that surveys should be directed toward those population segments with the greatest disease prevalence. They give some strikingly contrasting rates, low for school children and much higher for diabetic, industrial, hospital admission and outpatient groups These are merely rates of suspected disease based on roentgen findings I would like to ask them whether there is a direct relation between the rates of suspected disease and active or epidemiologically significant disease that is disease which will progress if undetected or which will infect other persons if not properly supervised or isolated In Minneapolis, where my associates and I did a community-wide survey, there is no direct relation between rates of suspected disease based on roentgen findings and active or epidemiologically significant disease. Drs Boucot and Cooper also make a plea to include symptomatic persons in mass surveys I see no serious objection, if symptomatic persons wish to participate in surveys However, as suggested, these persons need more than roentgen examination They are already, in many instances, indifferent to persistent cough chest pain and blood spitting For these persons the false assurance conveyed by lack of roentgenographic evidence for their symptoms will be a serious disadvantage. They do not understand that affliction of thoracic organs is possible in the face of roentgenograms which repeatedly show apparently normal pulmonary conditions The authors' suggestion for the handling of symptomatic patients would certainly retard established survey procedure—first, at the screening unit second, at the film-reading unit and third in the reporting section Before such a revision is undertaken I should like to ask if the disease-finding potentiality of the procedure has been measured experimentally in Philadelphia. The authors feel that survey patients with suspected disease should be seen immediately by a physician before a 14 by 17 inch (35 by 43 cm) confirmatory film is taken It is not clear to me how a physician seeing a patient with only a 70 mm film to indicate suspected disease can make a definite diagnosis or allay anxiety If he will wait a few days for a confirmation, there will be no necessity for him to see some 30 to 50 per cent of these patients, depending on the degree of overreading on the screening film The confirmatory film alone and a report of normal pulmonary conditions at this time will not only allay anxiety but, most important, will save the patient time and money and the community valuable professional services sorely needed during survey for those really in need of follow-up

Dr Herman Hilleboe, Albany, N Y It is recognized in public health, just as in clinical medicine, that there are many different interpretations of the significance of clinical studies Physicians must not forget that there will be as much variability in the interpretation of the public health technics that are used in the community as there is in the technics used in clinical medicine The question of overreading is an important problem Overreading overloads the limited facilities of the survey resources of many communities Physicians should always strive to be as exact as possible I think that overreading can often be as dangerous as underreading When physicians use screening methods regardless of what size film is used they are using a dragnet attempting to catch as many persons with suspected disease as possible Here, a certain percentage of error can be accepted When exact diagnosis is being made, then no error that is preventable should be permitted I think that physicians need to take 14 by 17 inch (35 by 43 cm) films or many different views including lateral and oblique views They must use every means if they are to arrive at an exact diagnosis and that of course, is implied in what Drs Cooper and Boucot said when they pointed out that it is necessary to use the tuberculin test laboratory studies, history and physical examination The thing to recall is the base of reference, whether or not one is doing a screening job in discovering persons with suspected disease or whether he is actually attempting to arrive at the diagnosis of tuberculosis Dr Roemmich has covered well the first interview and the possibilities of taking a large roentgenogram or not taking it In order to arrive at the most exact diagnosis possible physicians should include the large film To survey the adult population by roentgenogram every twelve months sounds like a good idea but from the public health viewpoint and in terms of money priority of other diseases and time it is rarely feasible I do not think physicians should concern themselves with things they cannot do Again physicians must be concerned with whether they are looking for tuberculosis or looking for other diseases and abnormalities as well If they are looking for tuberculosis they should survey the adult population group, set up proper control procedures (the examination of contacts the isolation of patients with infectious disease, the determination of the infection level in the community on an annual basis and the study of death reports as they are recorded) and control tuberculosis in that way

Dr Katharine R Boucot, Philadelphia In answer to Dr Roemmich, we do know that, by the most meticulous follow-up in a research project on 500 significant cases, we have had 0 6 per cent clinically active cases of tuberculosis, with 0 3 per cent of these patients actually hospitalized with positive sputum Routine follow-up on some 30 000 Philadelphia food handlers revealed that 0 25 per cent had been hospitalized or had had hospitalization recommended while the disease in 0 3 per cent had been judged active clinically We are aware that even brief questioning regarding symptoms slows the survey procedure but we view surveys as medical service, not picture-taking We feel that the responsibility lies squarely on the shoulders of the survey physician to make the project of maximal benefit even though nonroutine questioning takes a few minutes longer than to ask age and marital status alone As to Dr Hilleboe's suggestion that overreading overloads the survey follow-up, that is true if the overreading is extreme Our plan is to consider as "probable tuberculosis" or "suspected neoplasm" such lesions as are definitely seen in the parenchyma When the question arises whether or not a film shows altogether normal conditions, we consider that it shows only "suspected tuberculosis" and request a large film Sixty to seventy per cent of cases in the latter category are found to be "negative" on roentgen reexamination, so it is in this small group that we overread We, too, feel that precision in diagnosis is the realm of the clinician and not the survey physician As to the ideal viewpoint that annual roentgen check-up is unnecessary if uncovered cases are isolated, the simple answer is that there are not adequate beds available for isolation In Philadelphia at this moment we have 601 patients on the waiting list There are probably many more not listed because of the futility of the gesture Even were this not true, it would take some years to find and isolate all the cases of active tuberculosis because of incomplete population coverage, underreading of films, lack of patient and physician cooperation and the relapsing nature of tuberculosis We believe annual roentgen check-up is no less feasible than an annual visit to the dentist We see no need for annual all-out community surveys but feel that, at least in the large cities, existing roentgen facilities would not be overwhelmed by such a recommendation We would be delighted to see the annual roentgenogram incorporated as a part of the highly desirable annual physical examination

MASSIVE GASTROINTESTINAL HEMORRHAGE DUE TO JEJUNAL DIVERTICULA

DONALD D KOZOLL M D, M S (Surg)
JOHN A McMAHON M D
and
JAMES P KIELY, M D
Chicago

It may or may not be generally known that over 300 cases of diverticula of the mesenteric portion of the small bowel have been reported in the literature But that a patient could bleed to death from such a lesion would seem incredible to all except the few who have previously reported this complication We report this case because it is the seventh of its kind in the literature it illustrates the seriousness of the hemorrhage that can occur with jejunal diverticula, it furnishes morphologic evidence of this complication and it alerts the general surgeon to the need for more aggressive treatment of patients with massive gastrointestinal bleeding

REPORT OF A CASE

The patient was a 64 year old white man who, sixteen days before his admisison to St Francis Hospital in Evanston, Ill, noticed the passage of a large, black, formed stool This was coincident with his sustaining a fracture of the neck of the left humerus as a result of slipping on ice The patient's private physician, under whose continuous observation he remained for the sixteen days following the accident, verified the daily occurrence of "tarry" stools The stools were normal in amount shape, consistency and lack of pain To the patient's knowledge he previously never had had "tarry" stools nor had he passed any bright red blood through the rectum There was no hematemesis or vomiting, no abdominal pain, no change in bowel habit, no flatulence or belching and no gross intolerance to specific foods other than fowl

Several days prior to his admission to the hospital, the patient had a hematologic study performed, which showed a normal erythrocyte count leukocyte count, hemoglobin, color index and hematocrit value Because of apprehension concerning a persistent melena, hospitalization was recommended

Inventory by systems showed that the patient had dyspnea on exertion in recent years and a chronic nonproducitve cough of several years' duration His past medical history revealed that he had had congenital syphilis, pneumonia in 1905 and 1944 and typhoid in 1906 The past surgical history included a right sacroiliac strain twenty years previously and a fracture of the left humerus coincident with the onset of the present illness

All members of the patient's family had died His father had had diabetes mellitus complicated by a gangrenous toe

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From the Hektoen Institute for Medical Research and the Department of Surgery of the Northwestern University Medical School and of the Cook County Hospital, Chicago, and the St Francis Hospital Evanston Ill

The mother died of uremia, cause unknown. One brother died of a cardiovascular accident, another of a heart attack and a third of unknown causes One sister died after a cardiovascular episode

Physical examination on his entrance to the hospital revealed a well developed, well nourished white man who was not acutely ill despite his apprehension and appearance of pallor Though both pupils reacted to light and accommodation, the right pupil was slightly larger than the left Funduscopic examination gave negative results The patient had what appeared to be a "saddle-nose deformity and there was perforation of the nasal septum The remainder of the physical examination revealed nothing abnormal except for the presence of "tarry" stools on rectal examination The blood pressure on his admission was 130 systolic and 80 diastolic The pulse rate was 76 regular and full The erythrocyte count made after passage of 500 cc of 'tarry' stools showed 2,650,000 cells per cubic millimeter The hemoglobin content (Sahli) was 9 Gm per hundred cubic centimeters The hematocrit value was 26 per cent The reaction to the blood Kahn test proved to be 4 plus Bleeding time was 2 minutes and 52 seconds and coagulation time was 1 minute and 40 seconds The total protein concentration was 6 0 Gm per hundred cubic centimeters, albumin was 3 1 Gm and globulin 2 9 Gm The urea nitrogen concentration was 21 mg, and the creatinine was 2 8 mg The feces gave a 4 plus benzidine reaction for blood

In view of the absence of a palpable liver or spleen lack of signs of portal hypertension and lack of evidence to support the diagnosis of a blood dyscrasia, a provisional diagnosis of a bleeding peptic ulcer was made The patient was given a Muelengracht diet, antispasmodics vitamins C and K and calcium lactate. He was given 1,000 cc of whole blood intravenously on the first day

On the second day the patient passed approximately 1,300 cc of dark blood through the rectum, his blood pressure averaged 110 systolic and 70 diastolic and he complained of weakness and looked pale. He was given 500 cc of whole blood and 500 cc of sodium lactate intravenously On the third day the red blood cell count was 1,770 000, the hemoglobin content was 5 7 Gm the blood pressure was 80 systolic and 58 diastolic and the pulse rate was 120 and of poor volume He passed 1,125 cc. of dark blood through the rectum, and he was given 2 000 cc of blood and 500 cc. of sodium lactate intravenously during that twenty four hour period On the morning of the fourth day his red blood cell count was 3,090 000, the hemoglobin concentration was 8 25 Gm and the hematocrit value was 33 per cent He passed 700 cc of tarry material during the day After receiving 1,500 cc of blood that day his blood pressure rose to 130 systolic and 80 diastolic and the pulse rate was 72 On the fifth day the red blood cell count was 3,440 000 the hemoglobin was 11 0 Gm and the hematocrit value was 30 per cent. He passed 2,700 cc of dark red blood through the rectum during the ensuing twenty-four hours During this period he received 1 500 cc of blood and 500 cc. of sodium lactate The nonprotein nitrogen was then 39 mg the creatinine 2 0 mg carbon dioxide-combining power 53 volumes per cent, and the blood chlorides 450 mg On the morning of the sixth day the patient's blood pressure dropped to 60 systolic and 40 diastolic, and the pulse, though the rate was 68 was poor in quality He passed 1,350 cc. of blood during the night and had received 1,000 cc of blood and 200 cc of dextrose in distilled water intravenously His erythrocyte count was 2,500 000 the hemoglobin content 7 6 Gm and the hematocrit 26 per cent

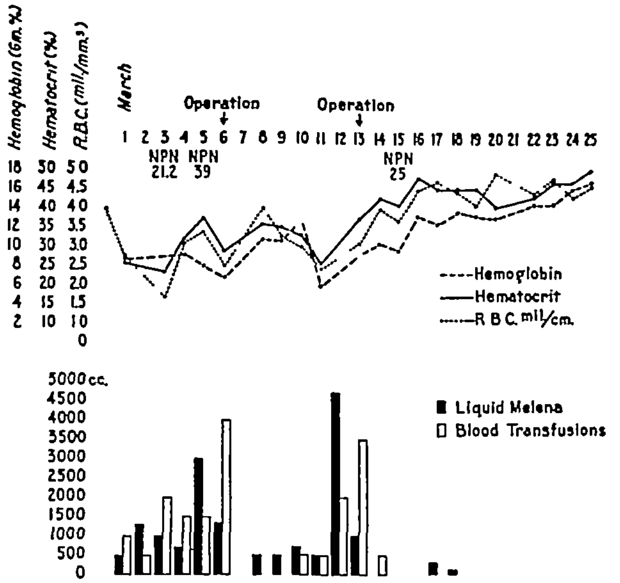

Fig 1 —Graph illustrating the effect of the blood lost by hemorrhage and of blood transfused on the circulation A total of 16 600 cc of blood was passed per rectum whereas a total of 17 500 cc of blood was administered Note that final improvement occurred immediately after second operation which consisted of resection of 51 cm of jejunum containing multiple diverticula

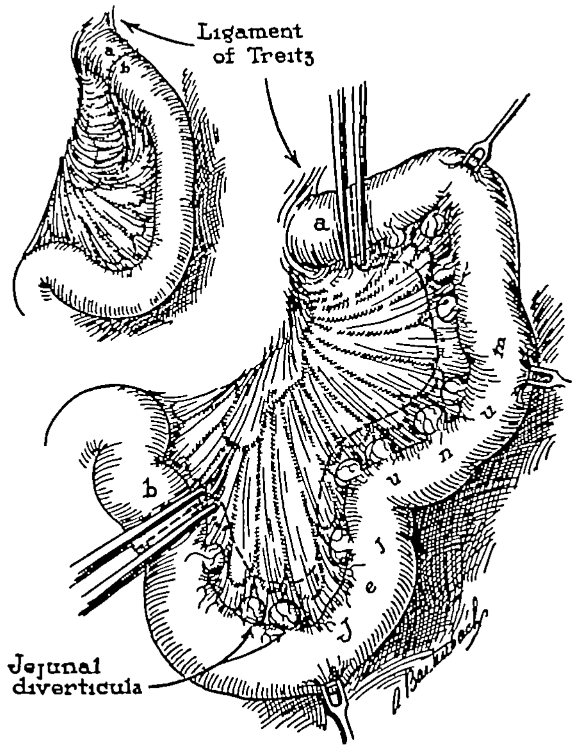

Fig 2 —Artist s drawing illustrating laparotomy findings Approximately twelve thumb-sized diverticula bulged between the layers of the mesentery of the jejunum when placed under tension by traction release of tension resulted in the collapse of the diverticula The line of resection is indicated by the broken line. The appearance of the anastomosis is shown in the smaller insert.

After medical and surgical consultation a decision was made to explore the patient's abdomen with the prospect of performing a gastric resection for a bleeding ulcer The staff roentgenologist felt that a barium meal study at this time would not be reliable enough to yield information of a definite nature Celiotomy was performed with the patient under intratracheal inhalation anesthesia and was considered to be noncontributory as far as explaining the site of hemorrhage was concerned. The liver appeared grossly normal there was no evidence of varices the spleen was of normal size and the stomach and duodenum showed no evidence of ulceration or the presence of a neoplasm On elevation of the jejunum for careful exploration several thumb sized diverticula were seen bulging into the mesentery and immediately collapsed on replacement of the bowel into the peritoneum (fig 2) On detailed palpation, none of these diverticula felt indurated, nor did they appear to contain any blood In fact, the entire small bowel was pink and showed none of the discoloration that would be expected with intraluminal hemorrhage There were small diverticula in the cecum, descending colon and sigmoid, and the large bowel was slate colored Because of the lack of awareness that jejunal diverticula could cause massive gastrointestinal bleeding it was decided to conclude the operation During the operative procedure the patient received 1,500 cc of whole blood and 3,000 cc of 5 per cent dextrose in water On his return to bed he went into profound shock but responded well to another 1,000 cc of blood and 1,000 cc of dextrose

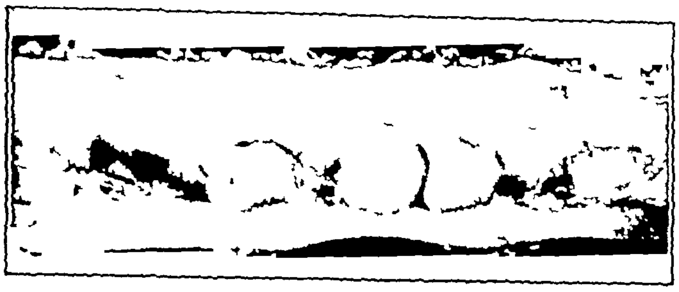

Fig 3—*Appearance of the jejunal diverticula after division of the mesentery Note the thin walls which are traversed by numerous fine blood vessels The bowel was opened on its antimesenteric border*

The next day (seventh day in the hospital) the patient s systolic pressure varied between 90 and 110 mm of mercury and the pulse rate was between 60 and 80 There was no melena and he was given only 2 000 cc of dextrose solution intravenously and 10 cc of thromboplastin intramuscularly The erythrocyte count rose to 4,100 000 the hemoglobin level to 10 5 Gm and the hematocrit value to 37 per cent In the next five days the patient again passed 500 to 700 cc of blood through the rectum daily and in spite of the administration of another 1 000 cc of blood the erythrocyte count gradually fell to 2 490 000 the hemoglobin to 6 Gm and the hematocrit to 24 per cent It was then decided that further surgical intervention was mandatory, and a plan was proposed to resect the segment of jejunum involved by diverticula and to check the specimen as a source of bleeding If it did not prove to be the source of hemorrhage, then a gastric resection would be undertaken on empiric grounds

In preparation for the second operation 2,500 cc of whole blood was given within twenty-four hours However, 5 700 cc of tarry material was passed by the patient from the rectum The blood pressure at this time was 90 systolic and 60 diastolic the pulse rate 114 the red blood cell count 3,150 000 the hemoglobin 11 Gm and the hematocrit 32 per cent

The second operation was performed on the thirteenth day in the hospital It was carried out with the patient under intratracheal anesthesia and a transverse incision was made because of the previous vertical incision The findings as shown in figures 2 and 3 were again the same, and an immediate resection of the entire jejunum (51 cm) with a primary anastomosis of the proximal end (just beyond the ligament of Treitz) to the ileum was carried out as is illustrated in figure 2 The specimen was immediately opened, and when each of at least a dozen diverticula was everted, it was found that approximately half of these contained 2 to 10 mm mucosal ulcerations and several of them were filled with clotted blood (fig 4) We then felt confident enough that the source of bleeding was eradicated, and closure of the wound was immediately effected A 1,000 cc transfusion of blood was given during the operation and another 1,000 cc after operation

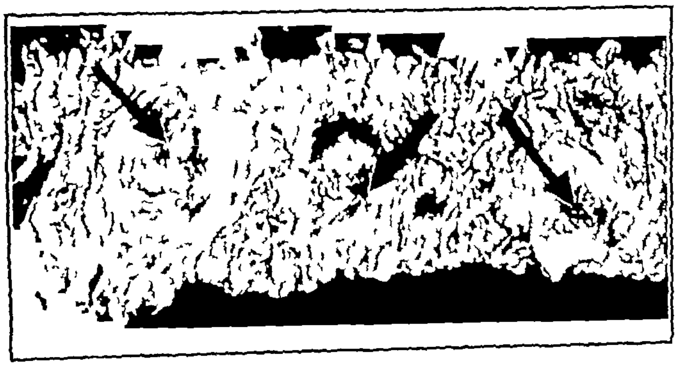

Fig 4—Photograph of opened jejunal specimen taken immediately after operation Arrows point to several mucosal ulcerations varying in size from 2 to 10 mm Some contain clots of blood Inflammatory reaction about the ulcer crater was minimal

The patient tolerated the second procedure remarkably well and the next morning his blood pressure varied between 150 and 160 systolic and 80 and 90 diastolic The red blood cell count the day after the bowel resection was 4,000,000, the hemoglobin content 13 Gm and the hematocrit value 36 per cent That day he received his thirty-fifth and last transfusion From then to the time of discharge (twenty-sixth day in the hospital) his course was most uneventful Except for two small residual tarry stools, the patient soon stopped passing blood per rectum He maintained a normal hematologic picture (fig 1), passed brown stools and resumed a normal diet The patient has now been observed for a period of fifteen months since the jejunal resection, and he is in excellent health There has been no evidence of recurrent bleeding

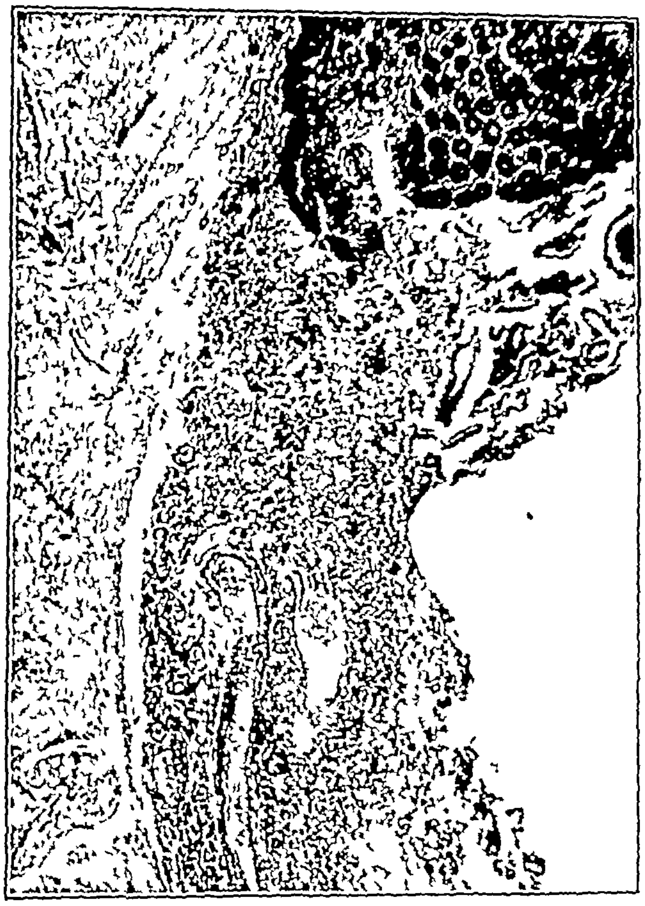

Fig 5—Photomicrograph of an ulcer within a jejunal diverticulum Note that defect in mucosa is filled in by recent and old hemorrhage containing many small blood vessels Ulcer extends down to muscularis and has incited little inflammatory reaction

Microscopic study of the surgical specimen was made for us by Dr Hans Popper, Director of Laboratories of the Cook County Hospital As is shown in figure 5, the ulcerated area penetrated beyond the mucosa to the muscularis The ulcer bed was filled with organizing hemorrhagic material which contained several smaller blood vessels Other areas showed submucosal hemorrhage which had as yet not caused ulceration of the overlying mucosa (fig 6)

COMMENT

The case has interested us for several reasons As was stated, it is the seventh case reported to date of jejunal diverticulum complicated by hemorrhage The first instance of bleeding due to jejunal diverticula appears to be that of Braithwaite in 1924 His patient had symptoms of chronic recurrent obstruction in addition to one emesis of 5 pints (2,500 cc) of undiluted blood Resection was performed In 1930 Somerford discovered such a complication at autopsy A 7 month old child had severe anemia, melena, emesis and abdominal pain for two months prior to death A single jejunal diverticulum was found to be filled with blood A case was reported by Tengwall in 1931 His patient had recurrent episodes of severe bleeding and anemia until 50 cm of jejunum was resected Rankin and Martin cited the case of Haltung, which was that of a 66 year old woman with a roentgenologic diagnosis of jejunal diverticula and tarry stools Jones and Crile reported their case in 1936 This patient described red blood in her stools on three or four occasions Guthrie and Hughes reported on a patient with melena, anemia and roentgenologic evidence of jejunal diverticula in 1937

From the point of view of morphologic evidence of the lesion, this is the fourth case of its kind because 3 of the cases that have been cited as instances of bleeding jejunal diverticula involved patients who had clinical evidence of gastrointestinal bleeding together with roentgenologic evidence of a jejunal diverticulum In view of the multitude of lesions now reported which may cause bleeding, one could legitimately question those cases lacking anatomic proof of hemorrhage Fourth or seventh of its kind, it is still a remarkably rare lesion In conversation with other surgeons during the week between the first and second operations, it was interesting to learn that none of them considered a jejunal diverticulum as the cause of hemorrhage When one recalls the number of autopsies that have failed to reveal the site of hemorrhage, the error made at the initial laparotomy appears understandable

The hemorrhage which occurred in this patient seems to be the most severe in the 7 cases now reported Our patient, by actual measurement, lost 16,600 cc of tarry material through the rectum In none of the other cases reported did the loss of blood approach this degree, the closest being that in Braithwaite s case in which an emesis of 5 pints (2,500 cc) of undiluted blood was reported With the exception of Somerford's case (a 7 month baby with necropsy evidence of a bleeding jejunal diverticulum) ours appears to be the most serious from the point of view of a threat to life None of the adults heretofore reported appears to have gone into shock as a result of the blood loss (considered by many to be one of the criteria for classification as 'massive" gastrointestinal hemorrhage) Our patient went into shock on several occasions The degree of anemia and of dependency on repeated transfusions for sustenance further labels this case as one of massive gastrointestinal bleeding

The morphologic evidence offered here is rather conclusive, a finding not universal among other similar case reports Its chief value lies in the possibility that it might suggest another mechanism for the bleeding if not for the diverticulum itself

The diverticula herein reported are of the acquired type That is, they occur along the mesenteric border at a point where the intestinal wall is weakened by a perforating blood vessel (Figure 3 illustrates the large number of fine vessels overlying the surface of the diverticulum) Fraser considered an additional factor of weakness on the mesenteric border of the jejunum to be the thinness of the longitudinal muscle fibers Edwards postulated a sudden protrusion of the mucosa through the points of weakness (as with sudden increases in intra-abdominal pressure, such as occur with coughing and sneezing) The history of this patient recalls two possible opportunities for such a development the chronic nonproductive cough (a postoperative roentgenogram of the chest revealed bilateral bronchiectasis) and the recent trauma, severe enough to have fractured the humerus Trauma has been considered as sufficient cause for perforation of a previously noninflamed diverticulum, might not trauma then be considered as a possible mechanism for submucosal hemorrhage (as seen in figure 6)? With increase in the size of the submucosal hematoma secondary ulceration of the thin overlying mucosa may result with exacerbation of the bleeding In the absence of aberrant pancreatic tissue or gastric mucosa (such as is seen with Meckel's diverticulum) some other mechanism for ulceration must be considered, and the aforementioned hypothesis is offered in lieu of it

The fluid balance and blood chemistry studies carried out on this patient were detailed and informative (fig 1) The collection of 16,600 cc of "tarry" stool is an astonishing figure If this amount had not been collected, we feel certain that the patient's degree of hemorrhage would have been underestimated Whether the entire bulk of the material passed by rectum was purely blood is difficult to ascertain, but personal examination by the physicians in attendance indicated that it was principally that Further evidence that the patient lost approximately this amount of blood is confirmed by the fact that, during the fourteen day period the patient passed 16,600 cc of this material through the rectum, he required and received 17,500 cc of whole blood intravenously In other words, we were just keeping the patient in balance, and we could have used the amount of stool passed as the criteria for the amount needed for transfusion just as well as the red blood cell count, the hemoglobin content, the hematocrit value, the blood pressure and the pulse

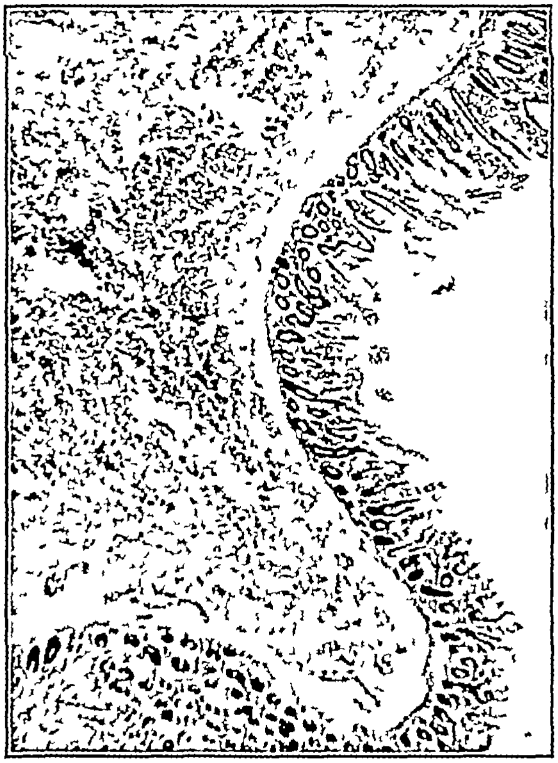

Fig 6—Photomicrograph of the wall of a diverticulum illustrating submucosal hemorrhage It is to be noted that the mucosa is intact. The accumulation of sufficient blood beneath the mucosa is suggested as the mechanism for necrosis and ulceration of the overlying mucosa leading to the type of ulcer and even greater hemorrhage than that seen in figure 5

Of biochemical interest is the fact that an extrarenal azotemia never developed, although the quantity of blood lost into the intestinal tract far exceeded that lost by many patients who had shown the rise in urea and nonprotein nitrogen It at least indicates that these criteria cannot always be depended on to indicate the degree of intestinal bleeding Possible explanations are the rapid emptying time (indicated by the marked diarrhea and the finding of a pink small bowel at the initial laparotomy) and the care devoted to maintenance of a normal urine output of alkaline character

Incidentally, another interesting hematologic problem presented itself in this case The patient's blood type was group 0 and he was Rh negative He was indigent and without any family or friends who could be called on as donors Because of his desperate plight it was decided to give him a transfusion with blood in group 0 and Rh positive whenever necessary Most of his donors were procured as the result of a radio appeal, and thirty-four of the thirty-five transfusions which he received were of the Rh-positive type There was not a single reaction of even the mildest degree in the entire series of transfusions, and one month after the last transfusion the patient's blood was still Rh negative

A final item worthy of discussion concerns the need for a more aggressive management of massive gastrointestinal hemorrhage Jejunal diverticula as a cause of such bleeding will probably not be encountered again in the course of our surgical career, but equally severe hemorrhage from peptic ulcers will Recent evidence indicates that peptic ulcer is the cause of between 61 and 75 per cent of all cases of gastrointestinal bleeding, and the policy of conservative management of all these merits careful scrutiny For example, the experience at the Cook County Hospital has been that for persons past the age of 60 the mortality for a bleeding peptic ulcer almost triples that of any previous decade to approach 33 per cent In addition, the occurrence of shock, red blood cell counts below 2,500,000, repetition of hemorrhage and nitrous retention were all factors which significantly increased the mortality rate The regrettable experience was that a forty-eight hour interval of conservative trial by the medical department was always permitted before the surgeon was called Under such conditions, as pointed out by Finsterer in 1939, the mortality rate will be 30 per cent or more When gastric resection was the operation of choice and was performed within the first twenty-four hours, mortality rates of 5 to 15 per cent have resulted Before such a program is begun an adequate provision of blood for transfusions must be made We are certain that the patient on whom we have reported here would not have survived without the availability of a quantity of blood which approximately quadrupled his normal blood volume but barely exceeded his measurable loss

SUMMARY

1 A case of multiple jejunal diverticula complicated by near-fatal hemorrhage is reported recovery followed resection of the jejunum This is the seventh case of its kind in the literature, the fourth case with morphologic evidence of the lesion

2 The following hypothesis for the development of the lesion in this patient is postulated The diverticula developed as a result of increased intra-abdominal pressure produced by a chronic nonproductive cough over a period of years Hemorrhage may have resulted from recent trauma which was severe enough to cause a fracture of the humerus and was coincident to the first occurrence of a bloody bowel movement The development of a submucosal hemorrhage (fig 6) to a point where it causes necrosis and ulceration of the overlying thin mucosa (fig 5) would lead to even greater hemorrhage

3 Accurate collection of blood lost by rectum can be used as the criteria for blood replacement In this instance, the 16,600 cc collected was barely exceeded by the 17,500 cc administered on the basis of other criteria

4 The loss of 16,600 cc of blood into the intestinal tract occurred without development of extrarenal azotemia

5 A blood group 0, Rh-negative recipient was given one 500 cc unit of Rh-negative blood and 17,000 cc of Rh-positive blood without reaction or alteration of his Rh-negative state

6 The need for earlier resort to surgical methods for the control of massive gastrointestinal bleeding is again emphasized

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POSTCHOLECYSTECTOMY SYNDROMES

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Under the name postcholecystectomy syndromes numerous clinical disorders which in reality have no relation to the actual removal of the gallbladder, have been reported However, there is a group of well-defined clinical syndromes which with good reason may be attributed directly or indirectly to some missing functions of the gallbladder and which therefore deserve the name postcholecystectomy syndromes I believe that the term should be reserved for this group The following review is based on observations of 1,370 cholecystectomized patients and covers a period of more than 20 years[1] Some of the patients have been followed five to ten years In order to avoid the impression of overemphasizing the possible failures and unexpeced sequelae of cholecystectomy and thus obscuring the great and indisputable value of this operation I wish to stress that the 80 per cent excellent results with a mortality as low as 0 5 to 0 9 per cent are not included and discussed in this article I propose herein to review and summarize many attempts in a longer follow-up to analyze as to the causes of recurrent attacks and various other difficulties in the other 20 per cent of cases Prediction whether a particular case will belong to the 80 per cent group of complete cures or to the 20 per cent of failures is difficult and makes the problem even more intriguing These investigations on a larger scale have offered impressive proof that the gallbladder is not a mere nuisance organ like the appendix, which may and actually should be removed whenever it starts to cause trouble The gallbladder has numerous functions of considerable importance This fact has not become evident in an impressive way because in about 80 per cent of cholecystectomized persons syndromes of a missing function may never become manifest In the other 20 per cent they may remain latent until additional damage reveals the weakened functional status of the digestive apparatus and releases the then well-defined clinical syndromes This additional damage is in most cases due to errors in diet, which in view of the lowered tolerance for food frequently occur

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Surgical Staff St Clare's Hospital

[1] Pribram, B O C Deutsche med Wchnschr **55** 1768 1929 Les sequelles de la cholecystectomy, Congr internat, Vichy 1932 Neue Deutsche Klin **2** 165 1934 Surg Gynec & Obst **60** 55 1935

In the following scheme the main functions of the gallbladder form the basis for analysis and understanding of the real postcholecystectomy syndromes

Functions related to cholokinesis (expulsion of bile)

1 Regulation of bile pressure in the bile ducts the gallbladder working as an overflow reservoir and tension bulb

   Clinical syndromes of missing function Pressure syndromes cramps in the right upper abdominal quadrant amounting to real colics, nausea and the like

2 Neuroregulation of gallbladder contraction in relation to opening reflex of the sphincter—

   Clinical syndromes of missing function dyskinesia of the sphincter—

   (a) Spasm leading to increased pressure syndromes and biliary stasis, favoring development or flare-up of cholangiohepatitis or pancreatitis

   (b) Paralysis of the sphincter leading to diarrhea and enteritis

Functions related to biochemical properties of concentrated gallbladder bile

   Aid in digestion of food, particularly fat, bile salts and gallbladder hormone (cholecysmon) acting as co-enzymes to the lipases

   Clinical syndromes of missing function lowered tolerance for food especially fat, anorexia and flatulence

FUNCTIONS OF THE GALLBLADDER

Regulation of Bile Pressure —When the sphincter is closed either in its normal, rhythmic manner or in an irritable state of spastic contraction the intraductal pressure rises and provided the cystic duct is patent, the gallbladder fills as an overflow reservoir and acts as a tension bulb With this regulating mechanism in working condition the intraductal bile pressure is maintained at its normal level of 150 to 200 mm of water In case of an occlusion of the cystic duct or a missing gallbladder the unchecked changes of bile pressure, and particularly its rise during digestion and during contraction of the sphincter, are felt by some patients as unpleasant pressure syndromes in the right upper abdominal quadrant The syndromes may even amount to cramplike pain resembling real gallstone colic Whether or not these pressure changes are actually felt by an individual patient depends on many additional factors The width of the common duct is of outstanding importance Patients with a narrow duct are much more sensitive to pressure changes than those with an enlarged duct This is certainly the reason why patients who had a simple cholecystolithiasis without involvement of the common duct suffer more frequently with pressure syndromes after removal of the gallbladder than do patients who had a choledocholithiasis with ampullar obstruction, which always involves some dilatation of the common duct Normally an intraductal pressure to 500 mm of water is tolerated without any pain An artificial irritation of the wall of the common duct either through infection or chemical irritants lowers the tolerance for pressure to 100 mm of water or even less (McGowan, Butsch and Walters [2]) Bearing this in mind one may safely conclude that when an intolerance for increased pressure develops after months or years of tolerance some local inflammatory irritation has developed as an additional damage

Neuroregulation of Expulsion of Bile —Not enough attention has been paid to the fact that in total cholecystectomy all the nervous plexuses located in the subserous and muscular layers of the wall of the gallbladder are removed The nervous impulses originating in these plexuses not only regulate the contraction of the gallbladder but also are intimately connected with the opening reflex of the sphincter which after cholecystectomy is well known to become the uncontrolled and disorderly villain in the play of clinical trouble The functional status of the biliary tract after complete removal of the gallbladder is quite different from that noted in cases in which a gallbladder clinically is not functioning because of occlusion of the cystic duct Dyskinetic disorders and spasm may not have been present before operation but after cholecystectomy such symptoms may develop to a decided degree It is obvious that spastic conditions developing or becoming exacerbated after cholecystectomy may greatly aggravate the pressure syndromes Lowered food tolerance in patients subjected to cholecystectomy may easily lead to acute gastroenteritis in the course of which the first pressure syndromes may appear Spasm of the sphincter is often the first manifestation of a long-lasting pathologic condition of the biliary duct system eventually involving the liver and pancreas Such an initial disturbance would be readily counterbalanced by a functioning gallbladder

The alteration of intraductal pressure following cholecystectomy has been studied in various ways by numerous authors Naunyn as far back as 1900 measured the intraductal pressure before and after cholecystectomy and found a rise from 25 mm of mercury to 50 and 55 mm These observations were later confirmed by all investigators The influence of drugs on the changes of common duct pressure due to contraction of the sphincter has been studied by several investigators (McGowan, Butsch and Walters,[2] Doubilet and Mulholland [3]) The following observations were made Morphine injections cause contraction of the sphincter followed by an increase of intraductal pressure from 150 to 200 mm of water to 250 to 300 mm Antispasmodics like atropine cause the pressure to drop or at least prevent a rise in pressure after simultaneous administration of morphine Amyl nitrite inhalation produces a relaxation of the sphincter with an immediate drop of intraductal pressure Physiologically of special importance is the observation that instillation of hydrochloric acid into the duodenum causes contraction of the sphincter and rise in bile pressure It is worth bearing in mind that spasm of the sphincter does not cause any pain The sphincter region is not sensitive in contradistinction to the region of the opening of the cystic duct, which is highly sensitive *Consequently stones in the common duct* whether lying quietly or passing through the orifice of the duodenal papilla, do not cause any sensation Pain and discomfort associated with sphincter spasm or stone occlusion are entirely due to the increased intraductal pressure

SECONDARY POSTCHOLECYSTECTOMY SYNDROMES

Cholangiohepatitis —Among the complications related to the increased intraductal pressure and stasis of bile (secondary postcholecystectomy syndromes) is cholangiohepatitis

A woman aged 42 had her gallbladder removed in 1931 Her case was one of simple cholecystolithiasis without disease of the common duct or liver After a year of complete well-being she began to suffer some recurrent pain and to have improvement of tolerance for food has been striking in the early postoperative course. In contrast to the usual anorexia, after cholecystotomy many of these patients with conservative surgical operation had a ravenous appetite. Moreover, they developed fancies for special food and indeed became veritable gourmets. Two questions have to be answered. First, does the anastomosis remain patent? Six months after operation a woman aged 28 had an appendectomy. During this operation iodized oil (lipiodol®) was injected into the gallbladder and a roentgenogram was taken (fig. 4). The gallbladder shows a normal outline and a wide open anastomosis. Second, is the gallbladder able to empty its content? A roentgenogram (fig. 5) shows the lipiodol®-filled gallbladder of another patient emptying through the anastomosis one week after operation. The emptying was complete within twelve hours.

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[2] McGowan J M Butsch W L and Walters W Pressure in the Common Bile Duct of Man Its Relation to Pain Following Cholecystectomy J A M A **106** 2227 (June 27) 1936 Butsch W L McGowan J M and Walters W Surg Gynec & Obst **63** 451 1936

[3] Doubilet H and Mulholland H S Clin North America, 1949

Indications.—Since the postcholecystectomy syndromes, especially the pressure syndromes, appear only in about 20 per cent of patients subjected to cholecystectomy it is important to know how one may diagnose the condition or recognize in advance those patients in whom the syndromes are likely to develop. Certain tendencies may be noted. Young women with signs of (1) pronounced irritability of the vegetative nervous system, especially the digestive apparatus, (2) a tendency to spasm and (3) hyperacidity and constipation of a spastic type constitute the majority of those in whom pressure syndromes are likely to appear after removal of the gallbladder. In my series these observations have been clearly defined: low incidence of postcholecystectomy syndromes in complicated cases and relatively high incidence in cases in which cholecystectomy has been performed in the presence of a not too badly damaged and still somewhat functioning gallbladder. The diagnosis of a still functioning gallbladder can be made clinically and roentgenologically only when the cystic duct is patent. However, roentgenographic demonstration of occlusion of the cystic duct is no proof that the gallbladder wall is damaged beyond hope of functional repair. A small stone might have slipped into the cystic duct; after removal of the stone and restoration of free drainage the gallbladder may recover completely. However, the actual decision whether a gallbladder has to be removed or an attempt may be made to perform the conservative cholecystocholedochostomy can be made only at operation by exploration

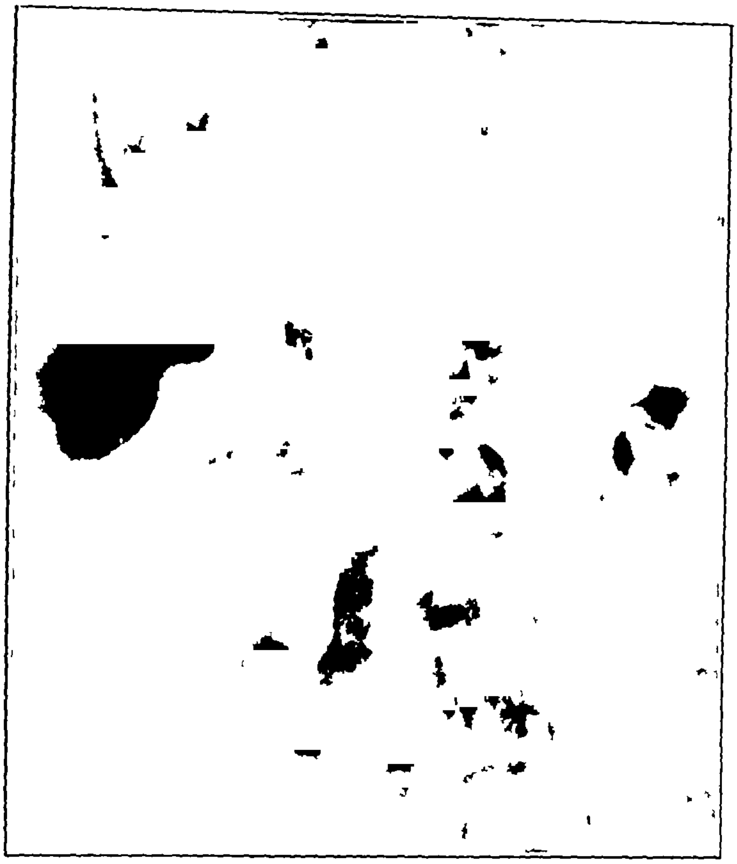

Fig. 4.—Gallbladder lipiodol® filling six months after cholecystocholedochostomy.

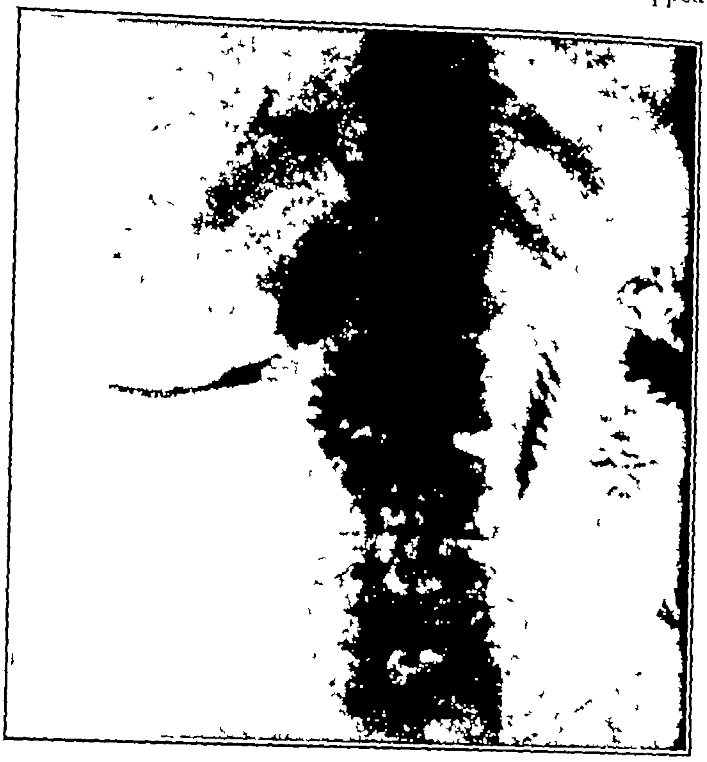

Fig. 5.—Gallbladder lipiodol® filling emptying through anastomosis six days after cholecystocholedochostomy (one hour after filling).

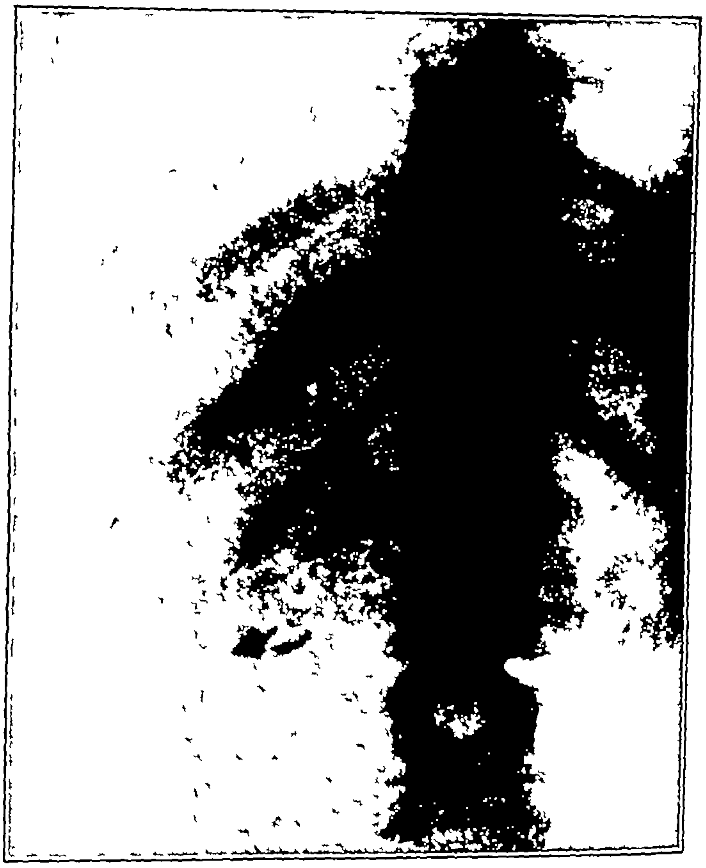

Fig. 6.—Gallbladder after cholecystocholedochostomy (twenty four hours after filling) emptying through anastomosis.

of the site In the beginning I confined the operation only to cases of dyskinesia and roentgenologically proved difficulties in the emptying of a static gallbladder However, encouraged by the favorable results I performed the operation also in the presence of some faceted stones, provided the wall of the gallbladder was not seriously damaged and some contractility could be expected The results suggest that securing of free drainage and prevention of stasis give mild inflammation a fair chance to subside and prevent new formation of stones which in no instance has been observed

TREATMENT OF POSTCHOLECYSTECTOMY SYNDROMES

Most of the troublesome postcholecystectomy syndromes are directly or indirectly related to the abnormal intraductal bile pressure, hence the relief of these conditions has to be the main object of treatment The truth of this concept has been proved by the well-established observation that in securing free drainage of bile, thus relieving the intraductal pressure and preventing biliary stasis all the secondary syndromes related to these primary conditions such as flare-ups of cholangiohepatitis or pancreatitis likewise may disappear in a dramatic way

Medical Treatment —Medical treatment of postcholecystectomy syndromes is successful in many instances The main principle in preventing sphincter spasm and pressure syndromes is correct diet All irritants known to cause spasm such as fatty food, iced drinks, foods that increase gastric acidity, like coffee or alcoholic beverages should be strictly avoided Since hydrochloric acid has a decided stimulating effect on sphincter contraction antiacid therapy is one of the chief aims of any dietetic regimen All spicy food has to be avoided, use of salt has to be restricted and in addition alkalies should be administered regularly after meals Antispasmodic drug therapy has yielded disappointing results However, belladonna and papaverine may be useful for their inhibiting action on gastric secretion Morphine, if necessary, should never be given without an adequate dose of atropine sulfate (1 mg) In case of paralysis of the sphincter followed by diarrhea dramatic effect may be obtained by the administration of hydrochloric acid and pepsin in sufficient doses after each meal If medical treatment fails, and especially if secondary complications such as fever indicate the development of cholangiohepatitis surgical treatment should not be delayed

Surgical Treatment —The following surgical procedures are at one's disposal and choice 1 External Biliary Drainage The most drastic method is external drainage of bile, which is imperative in cases of cholangiohepatitis with fever It is also the safest method to use in dealing with more acute flare-ups of pancreatitis External drainage should be maintained for at least six weeks A cholangiogram must always be taken in order to visualize the duodenal papilla and to make sure that stones are not present and responsible for the back pressure and biliary stasis If stones are discovered they are dealt with by the ether method

2 Choledochoduodenostomy The idea behind choledochoduodenostomy is to short-circuit the spastic orifice of the duodenal papilla and to secure unimpaired drainage of bile into the duodenum Considerable experience has been gained with this method over more than forty years The results may be summarized as follows Favorable statistics have been reported by numerous surgeons, especially from the European Continent [6] The main objection to this operation is the danger of an ascending infection of the biliary tract Reflux of duodenal contents into the common duct is observed almost regularly However the danger of development of a clinical cholangitis s slight provided the anastomosis is made wide enough to secure free drainage and to prevent any blocking by duodenal contents should they enter the anastomosis I have records of patients followed for more than eight years In all of them reflux of barium sulfate meal into the common and even intrahepatic ducts has been observed on roentgen examination However clinical cholangitis did not develop in any of them

3 Methods of Severing the Sphincter Choledochoduodenostomia interna The musculature of the sphincter is dissected from a transduodenal incision Doubilet and Mullholland recently reported 3 cases of chronic pancreatitis originating in a biliary reflux through a common pathway into the pancreatic duct Section of the sphincter brought relief of all pancreatic syndromes These observations constitute an impressive support of the concept of the importance of sphincter spasm in the pathogenesis of some forms of pancreatitis

Paravertebral Block This therapeutic procedure is based on the observation that dissection or anesthetic block of the paravertebral ganglions causes relaxation of the sphincter and increase of bile flow Procaine hydrochloride, 25 cc of a 1 5 per cent solution, is injected at the site of the paravertebral ganglions between the tenth and twelfth dorsal vertebrae The few personal experiences I have had with this method have been encouraging, and I feel justified in recommending that this simple and harmless method be tried before major surgical intervention is contemplated

Sympathectomy Experience with sympathectomy for relieving pressure syndromes in the biliary tract is at present too limited to permit any evaluation If paravertebral block yields good but only temporary results, this may be taken as an indication that sympathectomy would probably have the desired and lasting effect

SUMMARY

A group of clinical syndromes is described which deserve the name postcholecystectomy syndromes These syndromes can reasonably be considered due to some missing functions of the gallbladder The main syndromes are

1 The pressure syndromes due to the missing tension bulb function of the gallbladder and their secondary complications, cholangiohepatitis and pancreatitis

2 The lowered tolerance for food, especially fatty food, due to the missing digestive aid of concentrated gallbladder bile and the hormone secreted from the wall of the gallbladder

3 Paralysis of the sphincter, leading to diarrhea and enteritis

Cholecystocholedochostomy is described and recommended as a conservative surgical method for preserving the main functions of the gallbladder in suitable cases instead of removal of the whole organ Conservative and surgical methods for treatment of postcholecystectomy syndromes are discussed

910 Fifth Avenue (21)

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[6] Mallet Guy and Marion Rev du foie 3 217 1940

SUDDEN DEATH DURING CHILDHOOD WITH XANTHOMA TUBEROSUM

Review of Literature and Report of a Case

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and
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Cardiac disease associated with xanthoma tuberosum has been observed[1], however, the occurrence during childhood is infrequent Cook and associates[2] in 1947 collected from the literature 20 cases of xanthoma tuberosum in patients 31 years of age or less who had either definite or probably associated heart disease Only 13 of this group were 16 years of age or younger when first observed to have cardiovascular lesions[3] The case of Cook and associates,[2] the 2 cases reported by Montgomery and Osterberg[1b] and McGraw[4] bring the number to 17 Sudden death is known to have occurred in 6 of these cases[5] An autopsy was performed in only 2[5a]

Six cases of sudden cardiac death in children 16 years of age or younger with autopsy have been reported as resulting from arteriosclerosis[6] Since the clinical observations and the visceral lesions are similar, whether or not xanthomas are present, the observations in the 8 cases with autopsy will be considered together in this review

The clinical and pathologic observations in xanthoma tuberosum have been discussed elsewhere[7] The tumors may vary in both size and anatomic location Usually they are yellow and are found in the subcutaneous tissue around the elbows, knees and buttocks and attached to tendon sheaths The lipoid-holding cells may or may not be accompanied with giant cells[8] The etiologic basis of xanthomatosis is not known despite discussion[9] Thannhauser and Magendantz[10] have classified xanthomas primarily as hypercholesteremic and normocholesteremic, although some cases have certain features of both types The hereditary manifestations of xanthomas have been recognized for many years[11] Gossage[12] expressed the belief that xanthomas are inherited through a single dominant factor

All xanthomas occurring in the subcutaneous tissue or attached to tendon sheaths in children apparently are not accompanied with cardiovascular lesions[13], cases of sudden death in children may result from arteriosclerosis without xanthomas[6] Xanthoma tuberosum with sudden cardiac death also occurs during adult life In these adult cases the association of arteriosclerosis and the familial tendency to xanthomas similar to that observed during adolescence[14] has been noted Several reports of arteriosclerosis and sudden death in young adult males have been made since the last war[15]

REVIEW OF CASES IN THE LITERATURE

A summary of the clinical and pathologic observations in the 2 cases of xanthoma with sudden death and the 6 cases of arteriosclerosis with sudden death in children 16 years of age or younger previously reported by others are as follows

CASE 1[2]—A white boy 13 years of age had xanthomas about the elbows, fingers, knees, ankles and toes, with a history of dyspnea and substernal pain on exertion A systolic precardial murmur was heard best over the aortic area, and it was transmitted to the large vessels in the neck The blood pressure was 132 systolic and 84 diastolic and the pulse rate was 104 per minute. An electrocardiogram showed inverted T waves in leads 3, 4_F and 4_R The determination of blood cholesterol was 561 mg, cholesterol esters 360 mg, total fatty acids 948 mg, lipids 1,509 mg and lecithin 496 mg, per hundred cubic centimeters The sedimentation rate was 43 mm per hour (Westergren) The patient died a sudden cardiac death

At necropsy the cusps of the aortic valve were thickened and fibrotic, producing a moderate amount of insufficiency There was grade 1 arteriosclerosis of the mitral valve The coronary arteries showed grade 3 sclerosis with focal areas of extensive yellowish deposits and slight calcification The orifice and lumen of these vessels were narrowed, especially those of the anterior descending branch of the left coronary Many of the fibers in the myocardium were filled with fine fat globules The aorta showed enormous plaques formed by fibrous tissue and calcium The media and intima were infiltrated by groups of lymphocytes The subcutaneous tumors were typical xanthomas

Anatomic diagnoses were xanthoma *tuberosum multiplex*, coronary sclerosis, grade 3, with pronounced *narrowing of the* anterior descending branch, infarct of the left ventricle (anterior wall), and arteriosclerosis, grade 3, of the aorta

CASE 2[3h]—*A white girl* 11 years of age had xanthomatous lesions in the subcutaneous tissue of the elbows, buttocks, knees and feet, and similar tumors were attached to the extensor tendons of the fingers and to the achilles tendons The heart was enlarged, and there was a systolic murmur at the apex The child was seized with palpitation and breathlessness and died within twenty-four hours At the postmortem examination

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From the Department of Pathology, University of Texas Medical Branch

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[5] (a) Cook Smith, Giesen and Berdez[2] Lehzen and Knauss[3b] (b) Arning[3d] Bloom Kaufmann and Stevens[3g] Gwynne[3h]

[6] (a) Benda, C Ueber einen Fall von Schwerer Infantile Koronararterien Sklerose als Todesursache, Virchows Arch path Anat **254** 600, 1925 (b) Sprague, H B, and Orgain E S Electro Cardiographic Study of Cases of Coronary Occlusion Proved at Autopsy at the Massachusetts General Hospital 1914 1934, New England J Med **212** 903, 1935 (c) Wild R B A Contribution to the Pathology of the Coronary Arteries M Chron **16** 223, 1892 (d) Jokl E and Greenstein J Fatal Coronary Sclerosis in a Boy Ten Years Lancet **2** 659 1944 (e) Dreschfeld J On Angina Pectoris and Pseudo-Angina, Practitioner **11** 32 1890

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[8] (a) Hess, F O Ueber allegemeine Xanthomatose Verhandl d Deutsch Gesellsch f inn Med (Kong 46) 1934 p 355, München med Wchnschr **81** 579, 1934 (b) Beeson, B B and Albrecht P G A Contribution to the Study of Xanthoma Tuberosum with Report of a Case Arch Dermat & Syph **8** 695 (Nov) 1923 Footnote 7

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[10] Thannhauser S J and Magendantz, H The Different Clinical Groups of Xanthomatous Disease A Clinical Physiological Study of Twenty Two Cases Ann Int Med **11** 1662 1938

[11] (a) Török, L De la nature des xanthomes avec quelques remarques critiques sur la notion des tumeurs Ann de dermat. et syph **4** 1109 1893 (b) Boas, E P and Aldersberg D Familial Hypercholesterolemia and Atherosclerosis, J Mt Sinai Hosp **12** 84 1945 (c) Bloom Kaufmann and Stevens[3g]

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[14] Lane and Goodman[3f] Boas and Aldersberg[11b]

[15] Engleberg H, and Newman B A Xanthomatosis A Cause of Coronary Artery Disease in Young Adults J A M A **122** 1167 (Aug 21) 1943 Tullis J L Coronary Thrombosis in Youth U S Nav Bull **45** 334 1945 Zacks, L Coronary Sclerosis and Myocardial Infarction in Youth Am Heart J **26** 269 1944 Boas and Aldersberg[11b]

"fluid was found in the pleural cavities but the lungs were normal. The pulmonic valves showed some yellowish raised areas. The intima of the aorta contained roughened elevations which sometimes because of their yellowish white color resembled xanthomas. They were most pronounced in the region of the insertion of the ductus arteriosus, and here the stenosis of the aorta was most decided. The left carotid artery was nearly closed as the result of similar proliferation of the intima. The mitral valve showed four lentil sized, yellow xanthomatous plaques. These caused distortion of the cusps and made tight closure of the valve impossible. Lesions of pinhead size were found in both coronary arteries. The other organs were essentially normal."

Case 3.—A white boy 10 years of age died five minutes after boxing three rounds.[6d] He had received a number of blows to the chest and abdomen but had not been knocked down. After the fight he did not appear to be in any distress. At autopsy the descending branch of the left coronary artery was found to be occluded for a distance of 1 inch (2.54 cm.) by an organized thrombus beginning ½ inch (1.27 cm.) from the orifice. Distal to this occlusion were focal atheromatous changes. Several plaques of calcium were found between the intima and media, while the latter was disruptured and completely absent in areas.

Case 4.[6b]—A boy 15 years of age complained of substernal distress for one month. Associated with this pain was nocturnal dyspnea. The electrocardiogram showed inversion of the T waves in leads 2 and 3. At autopsy there were numerous old scars in the left ventricle with a recent infarct in the apex and in the lower portion of the interventricular septum. The anterior descending branch of the left coronary artery was occluded. The right coronary artery showed moderate sclerosis.

Case 5.—A white boy 15 years of age had had attacks of dyspnea and a sensation of substernal choking on exertion for three years.[6b] Two months prior to his death there occurred a severe attack of dyspnea and choking, which lasted one hour. An electrocardiogram made eight days prior to his death showed normal T waves. At autopsy the heart had a soft infarcted area 2.5 cm. in diameter in the posterior wall of the left ventricle. The coronary arteries showed moderate atheromatous degeneration with calcification.

Case 6.—Sudden death occurred in a girl 13 years of age.[6a] There was atherosclerosis of the aorta and large arteries. The anterior descending branch of the left coronary artery was occluded. There was an infarct in the left ventricle with an aneurysmal dilatation and a recent rupture. The kidneys showed advanced arteriosclerotic disease.

Case 7.—A boy 12 years of age died suddenly while running in the street.[6e] The heart showed no valvular changes. The aorta in the first part, showed slight atheromatous changes, and the coronaries were decidedly affected with atheromas. No further data are given on this case.

Case 8.—A girl 12 years of age [6c] "died very suddenly. No other lesion was found in the body beyond the disease of the coronary arteries."

REPORT OF CASE

J. W., a white boy 12 years of age, had been playing. After he had a sandwich at noon he returned to his play. A short time thereafter he was nauseated. The parents immediately took the child by car to the hospital, a distance of 6 miles. He remained conscious but was apprehensive during the trip. He was carried directly to an examining room, where he died a few minutes later, before he could be examined by the physician. According to the family physician the boy always had been in good health. His tonsils had been removed three weeks previously.

Postmortem Observations.—The following pertinent observations were made at autopsy. A yellow tumor 1.5 cm. in diameter was in the subcutaneous tissue on the extensor surface of the right arm and a smaller tumor in the subcutaneous tissue of the left arm, with several similar tumors over the left elbow. One nodule 3 to 4 mm. in diameter was located on the lateral surface of the left knee. Three tumors were beneath the skin over each buttock, the largest 1.0 cm. in diameter. All these tumors were moderately firm, yellow and easily movable. In section the lipoid cells had infiltrated the corium. The number of cells varied in the different groups, some were in contact with the dermis, others extended down into the subcutaneous fat. There was no capsule, and giant cells were not found in the microscopic study. Usually the xanthomatous cells were large and of uniform size. The cytoplasm contained small globules of lipoid.

The only pathologic process of interest other than the xanthomas was found in the heart coronaries, aorta and the major arteries leaving the arch of the aorta. The heart weighed 250 Gm. and was considered to be probably within the range of normal. The cusps of the aortic valve were fibrotic thickened and gray (fig. 1). There was some widening at the points of their attachment. The aortic valve measured only 4 cm. in circumference, the mitral and pulmonary valves measured 7 cm. each and the tricuspid 10 cm. There were a few small yellow areas in the mitral valve. The orifice of each of the coronary arteries was decreased. The lumen of both coronaries for 2 to 3 cm. was decidedly decreased by atheromatous plaques. In fact the lumen could not be demonstrated grossly in the first portion of the anterior descending branch of the left coronary artery. The amount of lipoid material decreased in these vessels after the first 2 to 3 cm. The myocardium showed extensive parenchymatous degeneration but definite areas of infarction were not demonstrated.

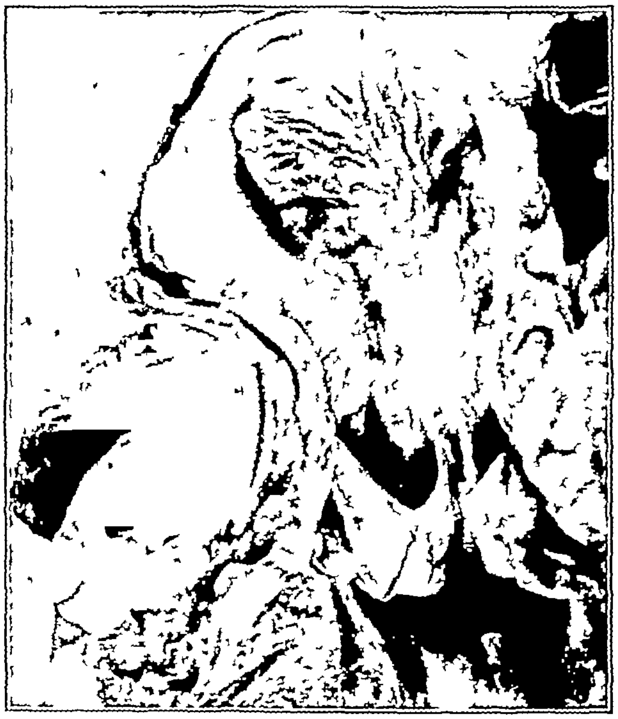

Fig. 1.—The cusps of the aortic valve are thick. An atheromatous plaque involves the greater portion of the circumference of the aorta immediately above the valve. Smaller but similar plaques are present throughout the aorta and in the larger vessels arising from the arch.

In the aorta above the aortic ring was a large plaque which extended up for 2.5 cm. and almost completely encircled the lumen (fig. 1). Smaller but similar plaques were distributed throughout the entire length of the aorta. They were more numerous in the lower third. The innominate, left carotid and left subclavian arteries had plaques similar to those in the aorta. Approximately one half of the circumference of the lumen of the innominate artery was a solid mass of yellow material.

The histologic lesions were similar in each of these large arteries. It would appear wise, however, to discuss separately the changes observed in each of the three parts of the wall of these arteries. In those portions of the intima that were yellow without plaque formation large lipoid cells infiltrated the tissue In the plaques lipoid cells were numerous, with cholesterol crystals in moderate numbers and focal areas of polymorphonuclear leukocytic infiltration There were some cystic areas of degeneration in these plaques The outer surface usually stained pink with phloxine ad hematoxylin Few spindle-shaped cells were present, giving the area a suggestion of fibrous-like tissue Calcium was not observed in any of the plaques The lumens of the coronary arteries were not completely occluded but decidedly decreased (fig 2)

The changes in the tunica media varied in different portions of the vessels (fig 3) In those areas where the intima was infiltrated with few lipoid cells, the media was normal However, in the aorta where the plaques were located the media was infiltrated by many lipoid cells These cells frequently were continuous with those in the overlying plaque In other areas the lipoid cells were in small groups, sometimes around the vasa vasorum (fig 3 *D*) The elastic fibers were completely absent in the areas occupied by the lipoid cells (fig 3 *C*) These elastic fibers apparently were degenerated and broken in these local areas Sometimes a few lipoid cells separated the bands of elastic tissue In other areas of the media, beneath the intimal plaques, the elastic fibers were swollen and stained deeply with phloxine The number of nuclei in such areas, which appeared to be undergoing degeneration, was definitely decreased The media, distal to the already described foci of degeneration was diffusely infiltrated with polymorphonuclear leukocytes (fig 3 *B*) There seemed to be an increase in the amount of pink-staining ground substance separating the bundles of elastic tissue In some areas of the coronaries, the media was swollen and the elastic fibers were fragmented

The adventitia in the aorta appeared to be thicker than normal Collections of lymphocytes were numerous in some areas (fig 3 *A*) Smaller numbers of similar cells were present in the adventitia of the coronaries The walls of the vasa vasorum were thick and their lumen decreased However, no specific pathologic change was recognized except for occasional perivascular lymphocytes

There were a few petechiae in the lungs and a small amount of pulmonary edema The spleen weighed 275 Gm , but pathologic changes were not observed The reticuloendothelial system, as found in the spleen, liver, bone marrow and lymph nodes, was carefully studied, but significant lesions were not found There was some proliferation of the reticuloendothelial cells in the sinuses of some of the lymph nodes, however, there was nothing to suggest such processes as one finds in lipoid dystrophies

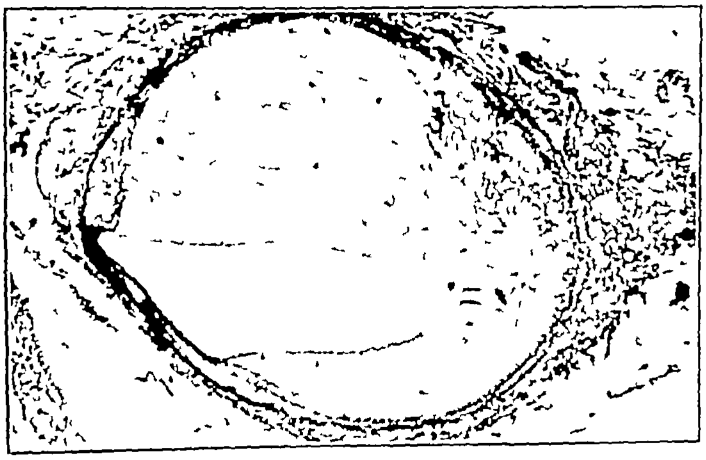

Fig 2 —The lumen of the descending branch of the left coronary artery is decreased Death of this boy 12 years of age is considered to have resulted from coronary insufficiency (Verhoeff Van Gieson stain × 26)

Anatomic Diagnosis—The following conditions were observed multiple xanthomas in subcutaneous tissue of the arms, around the elbows, knees and buttocks, cholesterol plaques in the aorta and coronary, innominate and subclavian arteries, aortic stenosis, cholesterol plaques in mitral valve, decided decrease in the lumen of the anterior descending branch of the left coronary artery, degeneration of the media of the aorta and coronaries wtih an infiltration of lipoid cells, polymorphonuclear leukocytes in the media of the aorta, parenchymatous degeneration of the myocardium, petechiae in the lungs, and pulmonary edema

COMMENT

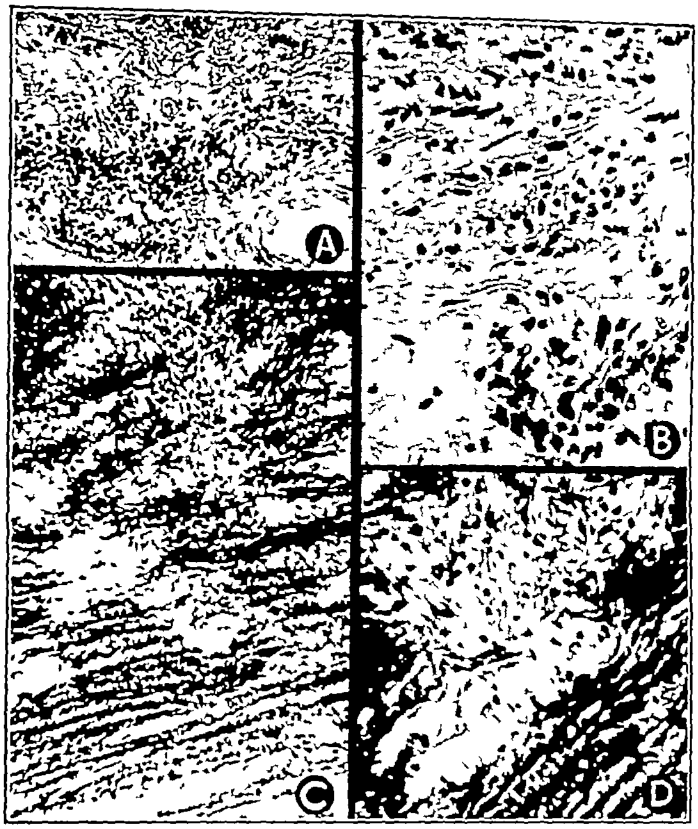

Fig 3 —Photomicrographs slightly reduced from the magnifications indicated *A*, the adventitia of the aorta is thickened and in some areas there are groups of lymphocytes about the vasa vasorum (hematoxylin and phloxine × 275) *B* the media beneath the large intimal plaque frequently is infiltrated with polymorphonuclear leukocytes Note the collection of these cells around a small vessel (hematoxylin and phloxine × 275) *C* the elastic fibers in the media have degenerated in many focal areas These foci are infiltrated with lipoid cells (Verhoeff Van Gieson stain × 108), *D* lipoid cells are present in the plaques and infiltrate the media (Verhoeff Van Gieson stain × 120)

The clinical and pathologic data are incomplete in some of the reported cases of xanthomas and arteriosclerosis in children 16 years of age or younger However, it would appear from the available information that the cardiovascular lesions are similar in all cases, whether or not xanthomas are present In each of these cases in which cholesterol determinations were made, the amount was found to be increased It has been stated that in all cases of xanthoma tuberosum there is hypercholesteremia[10] In many of the cases with arteriosclerosis death occurred without laboratory studies having been made In some of the cases there were no prodromal signs or symptoms of heart disease

The immediate cause of death in this group of cases usually was occlusion of the anterior descending branch of the left coronary artery In this group of 24 cases there were 14 females and 10 males All the cases occurred in white patients There are too few cases for these data to be significant, however, they are of interest

The atheromatous plaques in the case reported herein are interesting when compared with the experimental lesions reported by Cowdry[16] in the rabbit In this human case the atheromatous lesions were present in the first and lower third of the aorta, the development of the plaques would seem to agree with the theory advanced for this lesion in the rabbit Apparently the pathologic changes in the media are more pronounced in children than in the experimental animal Jokl and Greenstein[6d] referred to the media in their case as disrupted and completely absent in areas In our case the elastic tissue in the media usually was fragmented and sometimes completely absent in focal areas beneath the intimal plaques From casual observation the media has the appearance of a syphilitic lesion as do the groups of lymphocytes around the vasa vasorum in the adventitia Hess[5a] also referred to the similarity of these changes in the aorta to syphilitic aortitis in a case of xanthoma tuberosum and arteriosclerosis in a girl 19 years of age

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[16] Cowdry E V Arteriosclerosis New York The Macmillan Company 1933

It is impossible to say why xanthomas and sclerotic plaques developed in our case, but the pathologic change appears to have occurred as follows The lipoid cells first appeared in the intima, probably in the largest numbers at the junction of the intima with the media The number of these cells increased to form the intimal plaques Degeneration and fibrous proliferation occurred within the plaques The media beneath these plaques degenerated, as shown by the variation in staining of the elastic fibers, their swelling and the infiltration of polymorphonuclear leukocytes between the elastic fibers The occurrence of the degeneration beneath the plaques may support the idea that the nutrition for the media comes from the blood in the lumen of the vessels[10] The presence of these large intimal plaques would either decrease or prevent any nutrition from the circulation reaching the media through the intima Medial degeneration frequently occurs in human cases of arteriosclerosis, however, the extensive fragmentation of the elastic fibers and the large numbers of lipoid cells have not been observed in adult cases in such proportions as in this boy aged 12 years The swelling of the media and the fragmentation of the elastic fibers in the localized areas of the coronary artery would suggest that some degenerative change occurred in the elastic tissue before the areas were infiltrated with lipoid and inflammatory cells Although calcium was not present in our case, it has been observed by others in the sclerotic plaques in children[17] A more careful study of the cases of arteriosclerosis that occur in children may contribute greatly to a better understanding of the process of arteriosclerosis in adults

SUMMARY

A case is reported of sudden death in a boy 12 years of age who had xanthoma tuberosum and arteriosclerosis with a decided decrease in the size of the lumen of the anterior descending branch of the left coronary artery Twenty-four cases of sudden cardiac death now have been reported in children 16 years of age or younger at the time of the onset of cardiac symptoms in whom arteriosclerosis was present Xanthomas were present in 18 of these cases The most frequent cause of death in the group was coronary occlusion

The pathologic changes occurring in this case are reported in detail There were atheromatous plaques in the aorta and in the coronary, carotid, innominate and subclavian arteries Extensive degenerative changes were observed in the media of the aorta, and collections of lymphocytes were present in the adventitia of this vessel

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[17] Cook Smith Giesen and Berdez[2] Sprague and Organ[8f] Jokl and Greenstein[6d]

EFFECTS OF PITUITARY ADRENOCORTICOTROPIC HORMONE (ACTH) THERAPY IN OPHTHALMOLOGIC CONDITIONS

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and
JOHN M McLEAN M D
New York

The demonstration of the dramatic effects induced in patients with rheumatoid arthritis with the use of certain products of the adrenal cortex and the pituitary adrenocorticotropic hormone (ACTH) by Hench and his co-workers[1] has been followed by the demonstration of the therapeutic value of these products in a wide variety of disease conditions In most instances the therapeutic value ceases with or shortly after the cessation of treatment[2] Nevertheless the implications and potentialities of this and related treatment are fraught with significance It was only natural that we should investigate the use of these substances (in this instance only pituitary adrenocorticotropic hormone to date) in ophthalmology The known effect of these products on the acute inflammatory diseases of structures composed of collagenous tissue[2] and of mesenchymal tissue rendered the eye a suitable organ for experimental treatment because the sclera and cornea contain such a high collagen content and because the uveal tract is the seat of so much disease The claims of Mousio-Fournier[3] in the Fournier treatment of retinitis pigmentosa with the use of the melanophore hormone suggested the use of pituitary adrenocorticotropic compound in this condition because the compound contains a high content of melanophore hormone as an impurity It is of significance that Vail[4] prophesied the experimental use of pituitary adrenocorticotropic hormone in the treatment of certain hopeless eye conditions specifically retinitis pigmentosa, in a recent editorial

Pituitary adrenocorticotropic hormone was administered to 6 patients with the following diseases severe corneal edema (keratitis bullosa) due to an underlying corneal dystrophy, secondary glaucoma, chronic iridocyclitis, retinitis pigmentosa and acute choroiditis The duration of treatment was controlled by the short supply of the medicament and the response of the patient Treatment was discontinued after twelve hours in 1 patient because it was feared that longer treatment without surgical intervention would jeopardize the patient's eye In no instance was treatment continued longer than nine days, 1 patient receiving the drug four days, 2 nine days, 1 six days and 1 twelve hours

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Pituitary adrenocorticotropic hormone was supplied by Dr John R. Mote of Armour and Company

Read before the Association for Research in Ophthalmology Eastern Regional Meeting Jan 28 1950

From the Department of Surgery (Ophthalmology) the New York Hospital Cornell University Medical Center

Drs Ephraim Shorr May G Wilson Katherine Hain and Anne C Carter gave assistance and advice in this study

[1] Hench P S Kendall E C Slocumb C H and Polley H F The Effects of the Adrenal Cortex (17 Hydroxy 11 Dehydrocorticosterone (Compound E) and of Pituitary Adrenocorticotropic Hormone on Rheumatoid Arthritis Preliminary Report Proc. Staff Meet. Mayo Clin. **24** 181 1949 Hench P S Slocumb C H Barnes A R Smith H L. Polley H F and Kendall E C The Effects of the Adrenal Cortical Hormone 17 Hydroxy 11 Dehydrocorticosterone (Compound E) on the Acute Phase of Rheumatic Fever Preliminary Report ibid **24** 277 1949

[2] Panel Discussion on Present Status of Cortisone and ACTH Medical Education Committee, New York Academy of Medicine Jan 12 1950

● [3] Mousio-Fournier J C Therapeutic Action of Pituitary Extract on Diverse Eye Affections Día méd urug **16** 317 1949

● [4] Vail D ACTH in Myasthenia Gravis Am J Ophth **32** 1414 1949

Metabolic studies were instituted prior to treatment in all cases but one (secondary glaucoma) and during and after the treatment as indicated, in an attempt to evaluate the fact that the adrenal cortex was being stimulated and to determine the degree of that stimulation We were interested in determining whether a complete adrenal cortical response was necessary to secure good local (ocular) therapeusis If a good therapeutic response could be secured on small dosages, treatment could be continued over a longer period without the risk of adverse systemic complications As the circulating eosinophil count offers a good index of the pituitary adrenocorticotropic hormone dosage and maintenance dosages, these figures are given with the case histories

REPORT OF CASES

Case 1—*Corneal Edema (Corneal Dystrophy)*—S G, a white man aged 46, lost his right eye in 1921 after a postoperative infection He had a lens extraction of the left eye in 1926, which gave him a corrected vision of 20/20 In 1945 blurred vision developed, and he was examined by several ophthalmologists who told him that he had glaucoma He was placed on a therapeutic regimen of pilocarpine nitrate and physostigmine salicylate eye drops He was later informed that he did not have glaucoma but rather had a corneal dystrophy with edema He was told to continue the use of pilocarpine eyedrops and to use dextrose and karo® topically

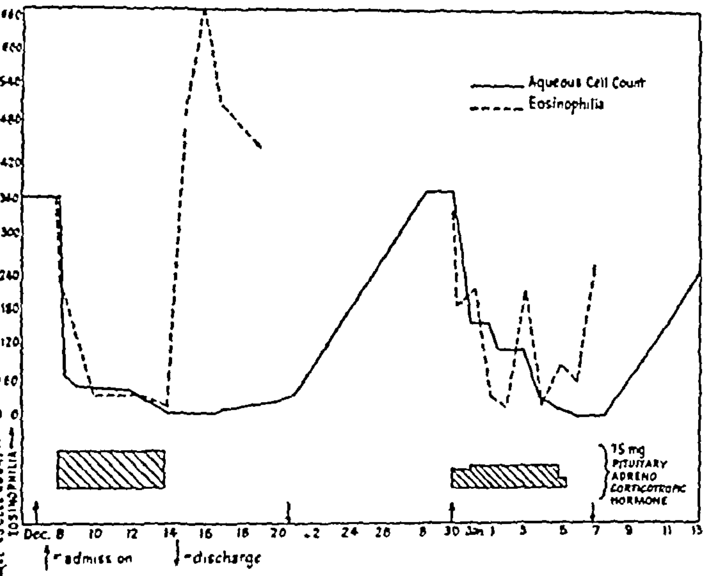

Fig 1 (case 3)—Apparent relation of improvement to decrease in eosinophilia the broken line represents eosinophilia, the straight line indicates the number of cells in the aqueous of the left (poorer) eye

When he was examined at the New York Hospital on July 20, 1949 he was found to have surgical anophthalmos on the right and vision of 20/70 + 2 with glasses on the left His cornea was decidedly edematous, with an irregular surface and pronounced thickening There were several large subepithelial blebs There were some secondary remnants in the pupillary area Tension was 20 mm of mercury with the Schiotz tonometer

He was admitted for treatment with pituitary adrenocorticotropic hormone on Dec 7, 1949 and given 25 mg four times daily, for a total of sixteen injections There was no apparent improvement in vision or in the appearance of the cornea after this interval, nor was there any adverse change in his ocular or systemic condition

His circulating eosinophil count was 374 per cubic millimeter on admission, dropping to 171 four hours after the first injection of the drug It measured 2 per cubic centimeter on the second day of therapy, 6 on the third day and 86 on the fourth day

Case 2—*Secondary Glaucoma*—I W, a white man aged 62, was seen in the Eye Clinic of the New York Hospital* in 1935 with a visual acuity of 20/20 and 20/15 He returned in 1949 with bilateral cataracts On Aug 10, 1949 he had an uneventful iridotomy and intracapsular lens extraction on the right followed by a similar procedure on the left on Aug 16 1949 While in the hospital he exhibited no untoward local reaction His pupils never dilated well with the local atropine instillations Two weeks after the first operation a faint aqueous ray and a few cells were noted in the right eye, followed by the appearance of an early inflammatory membrane in the pupillary area One week later a similar event was noted in the left eye The intraocular tension of the two eyes was within normal limits On Nov 8, 1949 the tension of the right eye was 48 mm, and of the left 26 mm (Schiotz) He was admitted to the hospital, where a synechiotomy and discission of the membrane was performed on the right eye The next day his eyeball was hard and the cornea steamy A paracentesis afforded some relief

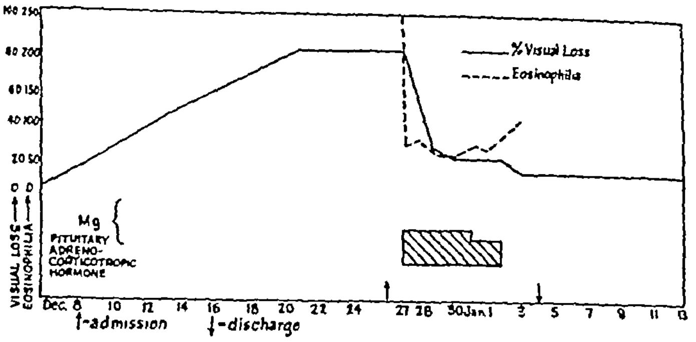

Fig 2 (case 5)—Apparent relation of improvement in vision to decrease in eosinophilia Broken line represents number of circulating eosinophils straight line represents percentage of visual loss using the American Medical Association tables for computation of visual acuity loss in percentages

On November 16 a basal iridectomy was performed on the right eye following which the tension remained within normal limits He was discharged on November 21 He returned on December 13 with a painful, red right eye and tension 65 mm (Schiotz) He was admitted to the hospital for a short trial period of pituitary adrenocorticotropic hormone therapy of twelve hours Four hours after the first injection his tension had dropped to between 35 and 38 mm (Schiötz) However within eight hours it again rose to its former level, treatment was discontinued and surgical intervention performed

His eosinophil count on admission was 92 per cubic millimeter, it fell to 25 four hours after the first injection and reached zero twelve hours after the first injection There were no other observations which were relevant to the use of pituitary adrenocorticotropic hormone He received a total of 75 mg of the hormone before surgical intervention

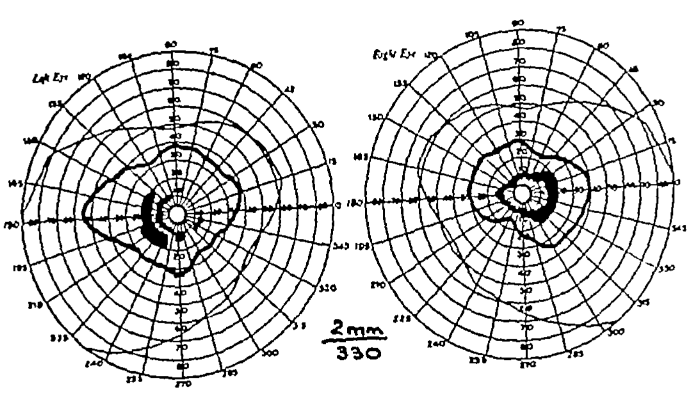

Fig 3 (case 4)—Visual fields Dec. 15, 1949 before treatment

Case 3—*Chronic Iridocyclitis*—J K, a white boy aged 9, was referred to the Eye Clinic of the New York Hospital from Tilton General Hospital on May 18, 1948 There was a history of blurring of vision in both eyes since the summer of 1947 He was first seen on Dec 4, 1947, at Tilton, where a bilateral iridocyclitis with vitreous membranes was found "Laboratory studies during this hospitalization showed the

Metabolic studies were instituted prior to treatment in all cases but one (secondary glaucoma) and during and after the treatment as indicated, in an attempt to evaluate the fact that the adrenal cortex was being stimulated and to determine the degree of that stimulation. We were interested in determining whether a complete adrenal cortical response was necessary to secure good local (ocular) therapeusis. If a good therapeutic response could be secured on small dosages, treatment could be continued over a longer period without the risk of adverse systemic complications. As the circulating eosinophil count offers a good index of the pituitary adrenocorticotropic hormone dosage and maintenance dosages, these figures are given with the case histories.

REPORT OF CASES

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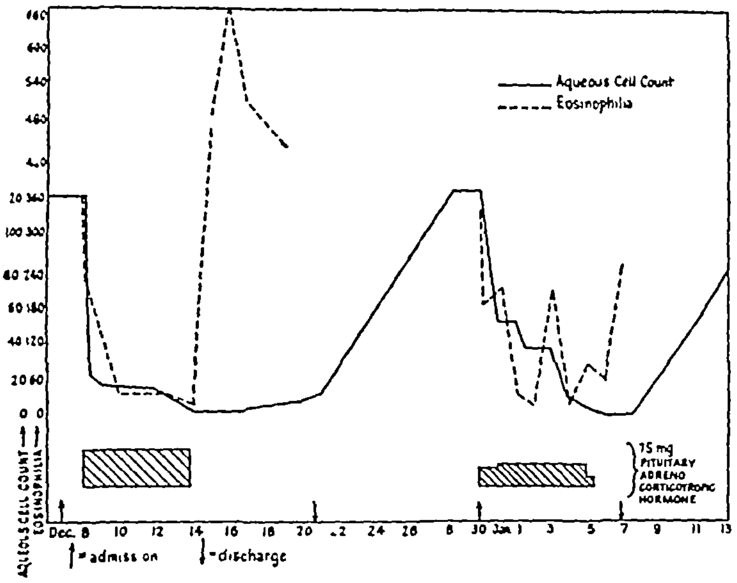

Fig. 1 (case 3).—Apparent relation of improvement to decrease in eosinophilia; the broken line represents eosinophilia, the straight line indicates the number of cells in the aqueous of the left (poorer) eye.

When he was examined at the New York Hospital on July 20, 1949 he was found to have surgical anophthalmos on the right and vision of 20/70 + 2 with glasses on the left. His cornea was decidedly edematous, with an irregular surface and pronounced thickening. There were several large subepithelial blebs. There were some secondary remnants in the pupillary area. Tension was 20 mm. of mercury with the Schiötz tonometer.

He was admitted for treatment with pituitary adrenocorticotropic hormone on Dec. 7, 1949 and given 25 mg. four times daily, for a total of sixteen injections. There was no apparent improvement in vision or in the appearance of the cornea after this interval, nor was there any adverse change in his ocular or systemic condition.

His circulating eosinophil count was 374 per cubic millimeter on admission, dropping to 171 four hours after the first injection of the drug. It measured 2 per cubic centimeter on the second day of therapy, 6 on the third day and 86 on the fourth day.

Case 2.—*Secondary Glaucoma*.—I. W., a white man aged 62, was seen in the Eye Clinic of the New York Hospital in 1935 with a visual acuity of 20/20 and 20/15. He returned in 1949 with bilateral cataracts. On Aug. 10, 1949 he had an uneventful iridotomy and intracapsular lens extraction on the right followed by a similar procedure on the left on Aug. 16, 1949. While in the hospital he exhibited no untoward local reaction. His pupils never dilated well with the local atropine instillations. Two weeks after the first operation a faint aqueous ray and a few cells were noted in the right eye, followed by the appearance of an early inflammatory membrane in the pupillary area. One week later a similar event was noted in the left eye. The intraocular tension of the two eyes was within normal limits. On Nov. 8, 1949 the tension of the right eye was 48 mm., and of the left 26 mm. (Schiötz). He was admitted to the hospital, where a synechiotomy and discission of the membrane was performed on the right eye. The next day his eyeball was hard and the cornea steamy. A paracentesis afforded some relief.

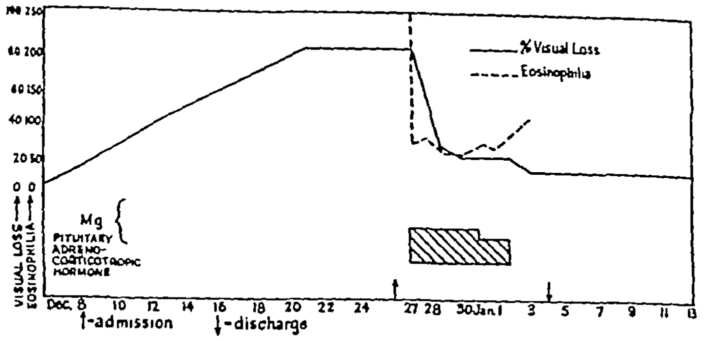

Fig. 2 (case 5).—Apparent relation of improvement in vision to decrease in eosinophilia. Broken line represents number of circulating eosinophils; straight line represents percentage of visual loss, using the American Medical Association tables for computation of visual acuity loss in percentages.

On November 16 a basal iridectomy was performed on the right eye, following which the tension remained within normal limits. He was discharged on November 21. He returned on December 13 with a painful, red right eye and tension 65 mm. (Schiotz). He was admitted to the hospital for a short trial period of pituitary adrenocorticotropic hormone therapy of twelve hours. Four hours after the first injection his tension had dropped to between 35 and 38 mm. (Schiotz). However, within eight hours it again rose to its former level, treatment was discontinued and surgical intervention performed.

His eosinophil count on admission was 92 per cubic millimeter, it fell to 25 four hours after the first injection and reached zero twelve hours after the first injection. There were no other observations which were relevant to the use of pituitary adrenocorticotropic hormone. He received a total of 75 mg. of the hormone before surgical intervention.

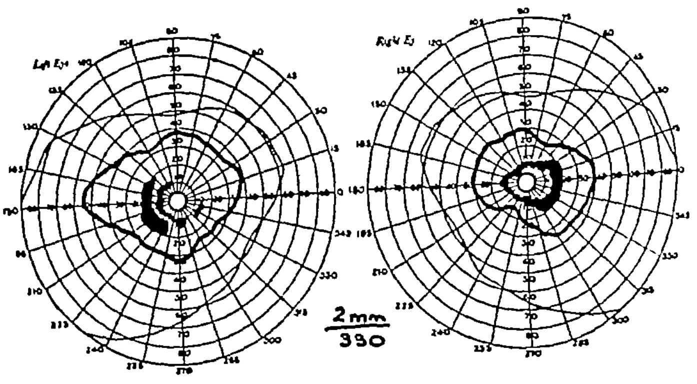

Fig. 3 (case 4).—Visual fields Dec. 15, 1949 before treatment.

Case 3.—*Chronic Iridocyclitis*.—J. K., a white boy aged 9, was referred to the Eye Clinic of the New York Hospital from Tilton General Hospital on May 18, 1948. There was a history of blurring of vision in both eyes since the summer of 1947. He was first seen on Dec. 4, 1947, at Tilton, where a bilateral iridocyclitis with vitreous membranes was found. "Laboratory studies during this hospitalization showed the

20/200 + 1 His vision was 20/100 the morning of January 10 and by late afternoon was a poor 20/70 The edema was receding slowly, although the disk area was still edematous On January 11 the lesion was definitely smaller and less blurred in appearance His vision was 20/70 + 2 The next day he was able to read a poor 20/40 and with a + 3 00 D lens (since he was completely atropinized) he could read Jaeger type 7 slowly The lesion above the macula was now beginning to assume a fragmented appearance. On January 13 he was able to read 20/40 — and with a + 3 00 D lens could read Jaeger type 3 slowly On January 14 he was able to see 20/40 + 2 The lesion appeared more fragmented and the macular area less edematous The center of the lesion exhibited faint pigmentation By January 17 he was able to read 20/50 + 2 with the eye which was completely atropinized and with a + 3 00 D lens could read Jaeger type 1 There was still considerable edema about the disk though less than during the first days The lesion was less fluffy (less edematous) with central pigmentation increasing No vitreous cells were found.

He had eosinopenia (74 eosinophils per cubic millimeter) on admission His blood pressure was 160 systolic and 104 diastolic on admission, it rose to 196 systolic and 100 diastolic during the first several days, after which it dropped to near its original figure. This will be discussed in a later paper

ANALYSIS OF RESULTS

The most dramatic responses to pituitary adrenocorticotropic hormone were made by the patients with uveitis (anterior and posterior) The recurrence of symptoms after discontinuation of the drug in the child with uveitis the complete therapeutic response on resumption of treatment and this in turn followed by recurrence after cessation of the second series of treatments parallel the experiences of workers in the field of rheumatoid arthritis and other conditions The patient with the posterior uveitis (choroiditis) has continued to improve although treatment with the drug has been discontinued (case 5)[5b]

The different courses taken by the two forms of uveitis treated (acute choroiditis and chronic iridocyclitis) are not paradoxic, rather, they are the expressions of an acute process contrasted to those of a chronic recurrent process One would expect acute choroiditis to continue healing, once well started in that direction just as one would anticipate recurrences in chronic iridocyclitis In case 3 the child with chronic iridocyclitis was given 525 mg of pituitary adrenocorticotropic hormone before he secured a complete therapeutic response on his first admission and 300 mg of the drug to secure the same result on the second admission Three theories suggest themselves, his daily dosage was unnecessarily high during his first admission the first series conditioned him to a better response during the second series or the observations were simply coincidental

The response of the patient with retinitis pigmentosa (case 4) is more difficult to evaluate This is a hopeless condition, unaccompanied with remissions, and the patient is an excellent observer It was our feeling that he did gain an increase in visual acuity and a decrease in density of his ring scotomas The decrease in the size of his left peripheral field following the initial treatment is one of the paradoxes which investigators constantly encounter, to their embarrassment and which they are not able to explain on all occasions The fact that his ring scotomas became denser after the treatment was discontinued would indicate that he did have a temporary improvement Again, the recurrence following cessation of treatment is what one might expect in a chronic disease It is paradoxic that retinitis pigmentosa should be benefited by pituitary adrenocorticotropic hormone Hench and his co-workers noted that patients with rheumatoid arthritis were benefited by pregnancy, hence, the energies of these investigators were stimulated toward research which has culminated in cortisone and pituitary adrenocorticotropic hormone One of us (D M G) who conducts the retinitis pigmentosa clinic of the New York Hospital has consistently noted that patients with retinitis pigmentosa complain of an increase in the severity of their disease with each successive pregnancy

The failure of treatment in the patients with the corneal edema (case 1) and the secondary glaucoma (case 2) cannot be productive of any conclusions as to the efficacy of the drug in these conditions The duration of treatment was too short and the series of cases far too small to permit any pertinent conclusions

The response of the patient with the acute choroiditis near the macula (case 6) was most unusual, in that he failed to throw any inflammatory products into the vitreous, suffered a decided initial increase in retinal edema coincident with the onset of treatment, improved rapidly coincident with the early phase of his treatment and began his healing in an unorthodox manner Characteristically, an area of choroiditis will shrink as it begins to heal In his case the lesion began to fragment and show areas of clearing as recovery ensued

COMMENT AND SUMMARY

1 Pituitary adrenocorticotropic hormone (ACTH) was given to 6 patients with the following diseases severe corneal edema (corneal dystrophy), secondary glaucoma, chronic iridocyclitis, retinitis pigmentosa and acute choroiditis The response of the patients with iridocyclitis and choroiditis was dramatic that of the patient with retinitis pigmentosa apparently temporarily beneficial The other 2 patients failed to exhibit any favorable response to short courses of treatment No adverse systemic effects were noted other than temporary hypertension and glycosuria (1 plus) and mild abdominal distention in 1 patient and temporary hypertension in another[6]

2 Every patient showed a definite fall in circulating eosinophils, similarly shown by Thorn, Forsham, Prunty and Hills[7] Two patients (cases 2 and 6) had eosinopenia on admission

3 The suggestion is offered that pituitary adrenocorticotropic hormone may function to condition otherwise retractory patients to an excellent therapeutic response to some other subsequent treatment which is insufficient, in itself, to secure such a result, e g, fever therapy in uveitis It may also serve to break up a vicious cycle of events such as secondary glaucoma complicating uveitis These speculations remain to be proved

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[5b] Ten weeks after cessation of treatment visual acuity of this patient has remained 20/30 and there has been no inflammatory release

[6] Both these patients received pituitary adrenocorticotropic hormone from a lot which contained 0 2 unit oxytocin and 1 3 unit vasopressin.

[7] Thorn G W Forsham P H Prunty F T G and Hills, A. G A Test of Adrenal Cortical Insufficiency The Response of Pituitary Adrenocorticotropic Hormone J A. M A. **137** 1005 (July 17) 1948 *Forsham P H Thorn G W Prunty F T G* and Hills A. G Clinical Studies with Pituitary Adrenocorticotropic Hormone J Endocrinol. 8 15 1948

4 The short supply of pituitary adrenocorticotropic hormone and cortisone militate against the study of any large series of cases at the present time

5 The instructional value of this material plus the fact that this represents the first report on the use of the drug in ophthalmologic conditions warrants this preliminary report, although the series is far too small to permit any conclusions Further investigation is definitely indicated and is being prosecuted

EFFECT OF ACTH ON CERTAIN INFLAMMATORY DISEASES OF THE EYE

A Preliminary Report

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The current investigation with which this preliminary report is concerned in part, was motivated by several considerations First artificially induced fever used in the treatment of many of the inflammatory disorders of the eye frequently may achieve the desired effect by the acceleration of the mechanisms normally evoked in many stress states In this regard, the results of recent laboratory and clinical research are such as to ascribe a basic role to the adrenal gland Second, the eye is particularly suited, as is no other organ, for direct and minute visualization of disease processes Here the vascular cellular and exudative changes of both primary and secondary disease can be observed In a sense this opportunity may be considered comparable to that which Markee[1] recognized when he visualized the hormonal response of endometrial tissue implanted in the anterior chamber of the monkey's eye Thus, to be able to directly observe the action if any, of pituitary adrenocorticotropic hormone (ACTH)[1a] on the morphologic alterations of ocular disease might be of real pathophysiologic significance This might apply not only to the eye but possibly to other tissues involved in disease and responsive to the action of pituitary adrenocorticotropic hormone Finally, the importance of the eye in human endeavor and the limitations sometimes encountered in present day fever therapy in themselves are motivations for continued search for more rapid, effective and safe therapy

The present investigation was undertaken, therefore, to demonstrate the possible action of pituitary adrenocorticotropic hormone on a variety of ocular lesions The studies are continuing at the present time with attention now being directed to the chronic and degenerative diseases We are concerned in this paper with the response to the drug of 7 patients with inflammatory lesions of the cornea and the uveal tract A detailed report covering the present and extended investigations will follow

CLINICAL MATERIAL

Cases for this study, with one exception, were drawn from the outpatient clinic of the Division of Ophthalmology of the Henry Ford Hospital Patients were admitted to the inpatient service, where the detailed ophthalmologic study was made All patients underwent extensive blood and urinary studies before, during and after the course of treatment, but results of these examinations will not be included in this preliminary report

With one exception, a Negro woman aged 36 (case 2) all patients were over the age of 50, the oldest being a woman of 63 (case 3) In cases 1, 2, 4 and 6 the diagnosis of acute plastic iritis was made In case 4 the acute plastic changes were superimposed on a chronic, bilateral, granulomatous iritis, and pulmonary roentgenologic observations led to a diagnosis of Boeck's sarcoid In case 2 there were similar roentgenologic observations, but the latter diagnosis was not established In case 3 severe keratitis had developed secondary to a recent cataract extraction In case 5 a man aged 57 had acute chorioretinitis and an absolute cecocentral scotoma In case 7 a man had severe keratitis, secondary iridocyclitis and secondary glaucoma Minimal and inactive rheumatoid arthritis was present in case 1, and in case 6 the patient was treated during a period of severe bronchial asthma In none of the patients did the history, physical examination and laboratory data suggest diabetes, renal disease or significant cardiovascular disease

TREATMENT

The pituitary adrenocorticotropic hormone was administered intramuscularly at intervals of either four or six hours in dosages of 10 to 20 mg Total dosages ranged from 185 to 432 mg, and treatment was continued over a period of three to thirteen days The shortest duration of treatment was in cases 1 and 2 and the longest in case 3 In case 3 treatment was interrupted after seven days when the supply of the hormone became exhausted but was reinstituted eight days later with the arrival of a new supply In cases 1 and 2 atropinization had been established prior to treatment with the hormone and was continued during the experimental therapy In case 3 typhoid-induced fever was given while pituitary adrenocorticotropic hormone was unavailable Analgesic and antimicrobial drugs were withheld from all patients except one (case 3), who received penicillin subconjunctivally during the period of induced fever In all patients attempts were made to avoid early relapses by withdrawing the pituitary adrenocorticotropic hormone slowly over the last twenty-four to thirty-six hours of treatment

RESULTS

The general effects of the pituitary adrenocorticotropic hormone will not be discussed except to say that the frequently observed exhilaration was noted in several of the patients and that the patient with bronchial asthma experienced prompt relief which continued throughout the period of observation

The ophthalmologic results in this group of patients were striking In all patients with regional pain and photophobia prompt relief was experienced This

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From the Divisions of Ophthalmology General Surgery and Metabolism of the Henry Ford Hospital

The pituitary adrenocorticotropic hormone employed in these studies was made available through the cooperation of Dr John R Mote medical director of the Armour Laboratories, Chicago

Since this preliminary report was presented for publication an additional 25 patients have been treated Both pituitary adrenocorticotropic hormone and cortisone have been used in lesions of the inflammatory group, with results comparable to those presented herein

[1] Markee, J E Menstruation in Intraocular Endometrial Transplants in the Rhesus Monkey, Contrib Embryol **177**: 219 1940

[1a] The term "action of pituitary adrenocorticotropic hormone" here and later implies that action which is mediated through its release of the adrenal cortical steroids

occurred as early as the second hour and in all patients was complete by the fourth hour after the initial dose of pituitary adrenocorticotropic hormone. In the patients with plastic iritis there was a significant reduction in cells and fibrin in the anterior chamber by the end of the fourth hour. Except in cases 6 and 7 the exudative features were resolved in twenty-six hours. In case 6 150 mg. of the drug was required over a period of forty hours before the plastic exudate cleared completely from the anterior chamber. In case 7 230 mg. was required over a period of seventy hours before the plastic exudate resolved. In none of the cases of iritis did posterior synechiae develop. In cases 3 and 7, which involved keratitis, the corneal edema had disappeared at the end of twenty-four hours. In case 7, the patient with secondary glaucoma showed a progressive decline in ocular tension from 40 to 20 mm. of mercury (Schiotz) within the first twelve hours and by the seventieth hour he had a tension of 12 mm. It is believed that this change coincided with the diminishing inflammatory process. The most striking response occurred in the case of chorioretinitis (case 5), in which the scotoma completely disappeared within four hours and the retinal lesion was completely resolved by the seventh day.

After treatment began, consistent changes were not observed in the conjunctival injection. This diminished progressively during treatment in some patients and resolved later in others. The hemorrhage in the anterior chamber in case 1 showed progressive absorption and disappeared by the forty-sixth hour.

Two patients (cases 1 and 2) were discharged from the hospital as "cured" and have been followed for seven and five weeks without evidence of relapse. In case 4 there was only an occasional cell in each anterior chamber five days after hormonal therapy was discontinued. Cases 5 and 6 in a short follow-up period have shown no regression. Treatment continues in case 7. The patient (case 3) in whom hormonal therapy was interrupted showed less response to the second course of treatment, which was stopped after a total of 432 mg. because of auricular fibrillation. This patient when originally seen was considered to have an incurable lesion, and subsequent examinations have revealed regression to the pretreatment level.

Transient glycosuria was observed in cases 3 and 5 while the patients were receiving pituitary adrenocorticotropic hormone. Fasting blood sugar levels and modified carbohydrate tolerance tests did not reveal significant hyperglycemia, and the glycosuria was considered to be of renal origin. In case 3 the fluid balance, body weight, physical examination, electrocardiograms and serum-electrolyte concentrations did not suggest a mechanism for the auricular fibrillation. Significant changes in the clotting times were observed in some patients, and further studies in this regard are now in progress.

REPORT OF CASES

Case 1.—S. O., a white woman aged 48, was previously under our care in 1947 for acute plastic iritis of the right eye. The condition was arrested after eight days of typhoid vaccine therapy. On Dec. 13, 1949 she was readmitted to the hospital for acute plastic iritis of the same eye after failing to respond for one week to ambulatory treatment. Examination revealed acute iritis with hemorrhage and a heavy plastic exudate in the anterior chamber. The only other significant physical observation was an inactive rheumatoid arthritis involving the joints of the fingers and the left shoulder. Treatment with pituitary adrenocorticotropic hormone was begun December 14 and continued for three days. Subjective findings of pain and photophobia disappeared at the end of four hours. At the same time slit lamp examination revealed a decided reduction and coagulation of the plastic exudate. Twenty-six hours after the initial injection of the drug the coagulum had disappeared and there remained only a few scattered cells and a residual of the blood clot in the anterior chamber. The clot completely disappeared at the end of forty-six hours. The remaining cells gradually decreased and by the thirteenth day of observation the eye was entirely clear. It has remained clear to the time of this report.

Case 2.—L. W., a Negro woman aged 34, was treated in 1948 in this hospital for acute plastic iritis of the left eye. After fever therapy the acute phase subsided, but she continued to show mild exacerbations which were treated in the outpatient clinic. She was readmitted with acute plastic iritis of the same eye on Dec. 24, 1949. Examination revealed severe circumcorneal injection with a 4 plus flare and a heavy plastic exudate in the anterior chamber. The only other significant physical observation was a roentgenogram of the chest interpreted as strongly suggestive of sarcoidosis. Subjective observations were severe photophobia and moderate pain. Administration of pituitary adrenocorticotropic hormone was started December 25 and continued for three days. Two hours after the initial dose slit lamp examination revealed complete disappearance of the plastic exudate with a decided improvement of the subjective symptoms. Twenty-four hours later there was no flare and there were only a few cells in the anterior chamber. These few cells decreased during the remaining three days in the hospital. On the eleventh day there was only an occasional pigmented cell in the anterior chamber and there has been no change since.

Case 3.—M. S., a white woman aged 63, had severe keratitis nine weeks after a cataract extraction, right eye. Despite our impression that useful vision was lost in this eye, the patient was admitted to the hospital Dec. 28, 1949 for pituitary adrenocorticotropic hormone therapy. She had intense circumcorneal injection with bedewing of the cornea more pronounced in the periphery. Descemet's membrane showed appreciable wrinkling. There was intense arborization of the deep vessels with extension about 2 mm. into the stroma just above the level of Descemet's membrane. The superficial vessels were invading to a lesser degree. The anterior chamber revealed a faint flare with a small number of cells. Subjectively the patient complained of moderate pain, photophobia and lacrimation. Four hours after the initial injection of the drug all pain had disappeared and the central area was completely free of edema. In twenty hours there was no corneal bedewing and the corneal vessels were less engorged. Descemet's membrane showed early signs of clearing. The patient continued to improve during the next few days. Administration of the drug was discontinued on the eighth day because our supply was exhausted. Subjectively and objectively the ocular lesion showed almost immediate regression. Three injections of typhoid-H antigen and the repeated subconjunctival administration of penicillin over a period of eight days failed to bring improvement. A second course of pituitary adrenocorticotropic hormone was begun on the fifteenth day and continued for six days with only moderate improvement. The drug was discontinued when the patient manifested auricular fibrillation, which was readily controlled by quinidine sulfate. It was our impression that she had reached her maximum improvement from pituitary adrenocorticotropic hormone at the time the drug was discontinued. Examination one week after discharge showed that she had regressed to her pretreatment level.

Case 4.—L. L., a Negro aged 55, was first treated for acute iritis of the left eye on Dec. 13, 1949. He responded well to fever therapy. When he was discharged December 19 the eye was entirely clear. Roentgen examination of the chest at that time was suggestive of sarcoidosis. Serologic reaction to the Kline test was 3 plus and to the Kahn test 1 plus. He returned Jan. 21, 1950 with typical bilateral chronic granulomatous iritis and an acute plastic iritis superimposed in the left eye Both corneas showed numerous small mutton-fat keratic precipitates In the left eye there was a heavy fibrinous exudate with a 4 plus flare and many cells The right eye showed only a few cells circulating in the aqueous The patient complained of pain in the left eye and photophobia Hormonal therapy was started January 22, and examination two hours later failed to reveal any fibrin in the anterior chamber of the left eye Almost all pain and photophobia had subsided Flare and cells were decidedly decreased The right eye remained unchanged After twenty-four hours the left eye was much clearer, and after four days of treatment most of the smaller keratic precipitates were thinning and crenating in both eyes When discharged on the sixth day he showed continued improvement with only an occasional cell and the resolving keratic precipitates remaining Admission and discharge roentgenograms of the chest showed no change in the observations that had been interpreted as sarcoidosis

Case 5—G A, a white man aged 51, had been hospitalized in October 1949 for acute paracentral chorioretinitis of the right eye The lesion resolved completely under fever therapy and histamine injections given alternately for seven days On Jan 21, 1950 he showed an acute exacerbation of this lesion The fundus revealed a red, edematous lesion, slightly larger than 1 disk diameter and located just nasal to the macula Tangent screens revealed an absolute cecocentral scotoma Four hours after he received the initial injection of pituitary adrenocorticotropic hormone the scotoma had completely disappeared Twenty-four hours later the lesion of the fundus began to clear Seven days after treatment was started the fundus was completely clear except for a small area of depigmentation Treatment in this case was continued for six days

Case 6—M W a white woman aged 50, was admitted on the allergy service of this hospital Jan 20, 1950 for intractable bronchial asthma The following day acute plastic iritis of the right eye developed Examination on January 22 showed severe circumcorneal injection and an anterior chamber filled with cells and a heavy fibrin coagulum The patient complained of severe pain and photophobia This patient was purposely not atropinized Two hours after the injection of 20 mg of pituitary adrenocorticotropic hormone the patient was completely free of pain and showed no significant photophobia By this time the plastic exudate had already begun to absorb and the bronchial asthma was decidedly improved After four days, treatment with the drug was discontinued and the eye showed only an occasional cell in the anterior chamber Despite lack of pupil dilatation synechiae had not formed Five days after treatment was discontinued there was no recurrence of iritis or asthma

Case 7—G R a white man aged 62, was admitted to the hospital with severe keratitis and anterior uveitis of the right eye, of three months duration No history was available, but he apparently had received only local treatment Examination revealed a nearly opaque cornea with bullous keratitis and early pannus formation Even after instillation of glycerin it was impossible to determine the exact amount of exudate in the anterior chamber but large mutton-fat keratic precipitates were present in the central corneal area Tension of the right eye was 40 mm of mercury (Schiotz) The pupil would not dilate, posterior synechiae apparently being present There was mild pain

Pituitary adrenocorticotropic hormone therapy was begun Jan 26, 1950 Four hours later the pain had subsided At the fifth hour the edema was noticeably less, and both the bullae and edema had disappeared at the end of the sixth hour Tension was reduced to 20 mm of mercury after eleven hours Better visualization of the anterior chamber at this time revealed a heavy plastic exudate, which steadily subsided over the next twenty hours Tension varied between 10 and 20 mm of mercury After five days of hormonal therapy the corneal stroma had cleared moderately As the patient is still receiving treatment it is impossible to say whether these improvements will regress when hormonal therapy is discontinued

COMMENT

It would appear from these preliminary studies that pituitary adrenocorticotropic hormone significantly and favorably alters some inflammatory diseases of the uveal tract It is apparent that the rapidity and completeness of its action in the more acute inflammatory cases exceeds the most favorable response achieved with present day methods of therapy Longer periods of observation are necessary to evaluate the role of this agent in chronic inflammatory diseases In contrast to fever therapy the patients experience no discomfort The limitations which are sometimes encountered in the treatment of inflammatory ocular lesions, both in the elderly patient and in the person with complicating disease precluding fever therapy, appear to be overcome in part by the results of these studies However, it is too early to arrive at more than tentative conclusions, and further study is obviously necessary before any final opinions can be written The manifold action of pituitary adrenocorticotropic hormone is such that limitations to its use in such diseases may be encountered The occurrence of renal glycosuria in 2 patients, though transient and slight, and auricular fibrillation in 1 patient, though not established as a true complication, supports this belief Some optimism in this regard is justified, however, in view of the rapid remissions of the lesions in some of our patients, thus requiring a minimal dosage Although this is only a preliminary impression, we believe that a gradual reduction in the dosage of pituitary adrenocorticotropic hormone was helpful in preventing the occurrence of relapses during the period of adrenal hypofunction which may follow withdrawal of the hormonal preparation

Finally, we would like to emphasize one of the considerations which motivated the present investigation The eye with its inflammatory, exudative and proliferative diseases offers, in particular, an excellent opportunity to observe the action of pituitary adrenocorticotropic hormone in these pathologic processes It has effected here a rapid resolution of hemorrhage, fibrinous and cellular exudates, thus visually demonstrating the importance of this hormonal agent in the response of the organism to these features of disease

SUMMARY

A preliminary report on the action of pituitary adrenocorticotropic hormone in certain inflammatory diseases of the eyes has been presented To date, 7 patients with acute and chronic lesions have been followed Four patients had acute plastic iritis and 2 had keratitis and anterior uveal tract involvement, 1 of the 2 with secondary glaucoma One patient had a recent chorioretinitis with absolute scotoma All patients responded abruptly and favorably to hormonal therapy Symptomatic relief and distinct objective changes were achieved as early as the second hour in 1 patient and by the fourth hour in the other patients The patient with chorioretinitis and associated scotoma was free of the latter by the fourth hour The patient with keratitis secondary to cataract extraction responded favorably to the drug but improvement regressed when treatment was withdrawn The second patient with keratitis has responded favorably and is still receiving treatment Dosages employed ranged from 185 to 432 mg over a period of three to thirteen days Glycosuria in 2 patients and auricular fibrillation in 1 patient were observed during the period of administration of pituitary adrenocorticotropic hormone

USE OF PITUITARY ADRENOCORTICOTROPIC HORMONE (ACTH) IN POLIOMYELITIS

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Certain data about poliomyelitis suggest an unusual host-parasite relationship Among these are the low incidence of paralysis[1] less than 1 in 100 cases of poliomyelitis infection the familial incidence[2] constitutional factors[3] and endocrine imbalance theories[4] which have been advanced to explain susceptibility, excessive fatigue and chilling or exhaustion during the incubation period which is frequently followed by severe paralysis, and the greater incidence of paralysis in pregnant women as compared with nonpregnant women[5] The concept of latent immunization to various antigenic types of virus does not explain the epidemiologic patterns of the disease[6] All these observations suggest that susceptibility or resistance to poliomyelitis involves nonspecific defensive mechanisms and, indirectly that the host response is more important than the virulence of the virus in determining the course of infection Rapid mobilization of bodily defensive mechanisms may limit the spread of infection in the usual nonparalytic case, whereas a slower response as a result of constitutional factors or exhaustion may permit infection to spread Indeed we do not know whether or not poliomyelitis precipitates an 'alarm reaction" Pituitary adrenocorticotropic hormone (ACTH) induces this reaction quickly, and it occurred to us that a failure of these mechanisms to act naturally might contribute to the development of paralytic poliomyelitis

For these reasons the therapeutic use of pituitary adrenocorticotropic hormone in early poliomyelitis seemed worthy of trial Ideally, one should test this theory by giving the drug during the first few days of the incubation period, and it is fully realized that its use after the disease is manifest may prove nothing However, with the encouragement of Dr John R Mote of the Armour Laboratories, a cautious therapeutic trial was made, and this led to the study reported herein It was believed that the following questions might be answered (1) Is the "alarm reaction" evoked by poliomyelitis? (2) What is the physiologic action of pituitary adrenocorticotropic hormone in poliomyelitis? (3) Does the drug modify the course of poliomyelitis when administered early in the course of the disease?

Single doses of varying amounts of the agent were given to a number of poliomyelitis patients at the Camden Municipal Hospital Deleterious effects were not observed, so 2 patients were given a daily maintenance dose of 50 mg for four days In both patients the temperature returned to normal within twelve hours and the progression of paralysis ceased The apparent absence of toxic effects in these patients suggested that a definitive trial with a significant number of patients should be run without waiting for further animal experiments Since only sporadic cases were occurring in southern New Jersey, the study was moved to the Children's Medical Center at Boston where an extensive epidemic was in progress

Table 1—*Dosage Schedule of Pituitary Adrenocorticotropic Hormone in Milligrams per Day Divided into Four Equal Doses and Administered Intramuscularly*

Weight in Kilograms	Day of Therapy			
	1	2 (R_2)	3	4
Under 20	40	40	20	20
20 to 40	60	60	40	20
40 to 60	80	80	60	40
Over 60	100	100	80	60

The first 18 patients (R on the accompanying chart) received the drug as shown above

The next 17 patients (R_2 on the chart) were maintained at the dosage shown for the second day of therapy in this table for a period of five days

PLAN OF STUDY

To be admitted to the study, patients were required to present at least four of the seven criteria set forth by the National Foundation for Infantile Paralysis namely, history, fever, stiff neck, stiff back, not less than 10 or more than 500 cells in the cerebrospinal fluid, elevated level of protein in the cerebrospinal fluid and demonstrable muscle weakness In addition, we required that patients must have been ill less than five days and have a temperature of 100 5 F or more A total of 70 patients were studied, 35 receiving pituitary adrenocorticotropic hormone and 35 a placebo

Patients admitted to the study were given the drug or a placebo as determined by random selection through drawing balls of two colors from a container All medication was given intramuscularly at six hour intervals for four or five days The identity of the medicament was unknown to the nursing and medical staffs who cared for and evaluated the patients The dosage schedule of the adrenocorticotropic agent is shown in table 1

For the first part of the study crystalline penicillin was used as the placebo This was later changed to isotonic sodium chloride solution when it was pointed out by Dr Peter Forsham that the eosinophil count might be altered in persons hypersensitive to penicillin

The criteria for activity of the drug and adequacy of dosage were obtained by eosinophil counts done initially and at four hours, then daily during therapy and for

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Aided by a grant from the National Foundation for Infantile Paralysis

The pituitary adrenocorticotropic hormone (ACTH) used in this study was supplied by Dr John R Mote of the Armour Laboratories

Dr Charles Janeway assisted in these studies by making available the facilities of the Children s Medical Center by coordinating administrative details and by giving technical advice

From the Municipal Hospital Camden N J (Drs Coriell and Murphy) and from the Children s Hospital of Philadelphia (Department of Pediatrics University of Pennsylvania School of Medicine) Philadelphia (Drs Coriell Murphy and Stokes) from the Division of Clinical Laboratories Children s Hospital and the Department of Pediatrics Harvard Medical School Boston (Dr Siegel) and from the Department of Pediatrics Children s Medical Center Harvard Medical School (Dr Cook)

[1] Aycock W L. Exposure as a Factor in the Age Distribution of Measles, Diphtheria and Poliomyelitis Am. J Pub Health **24** 433 1934 Howe, H A Epidemiology of Poliomyelitis in the Light of Modern Research Am J Med. **6** 537 1949 Aycock W L Susceptibility to Paralysis in Poliomyelitis Illinois M J **80:** 231 1941

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[3] Aycock W L Familial Aggregation of Poliomyelitis Am. J M Sc **203** 452 1942 Nelson N B and Green W T Second Attacks of Anterior Poliomyelitis Report of Four Cases Am J Dis Child **65** 757 1943 Aycock W L Constitutional Types and Susceptibility to Paralysis in Poliomyelitis Am. J M Sc. **202** 456 1941

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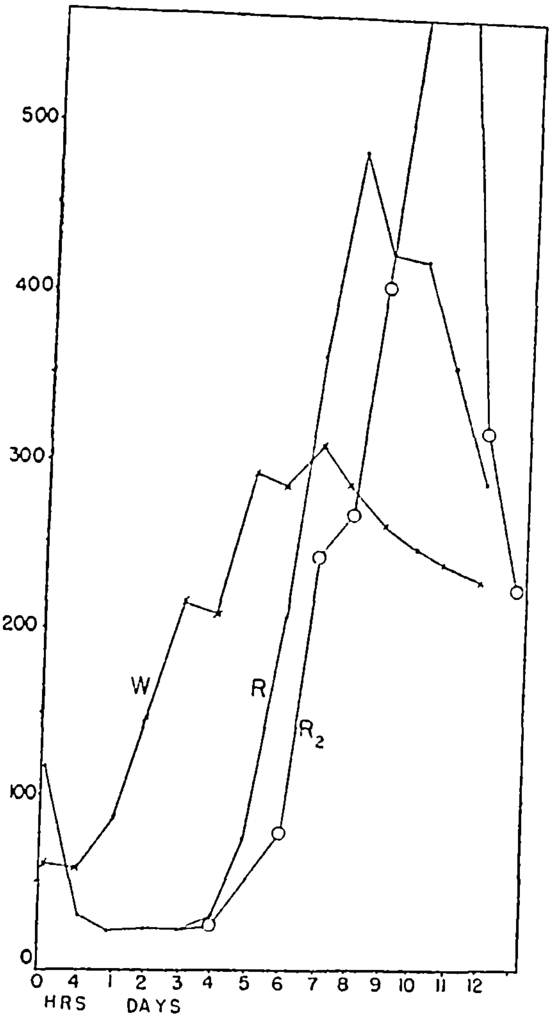
eight days after discontinuing therapy, by excretion of 17-ketosteroids and by blood chemical studies of the sodium potassium and fasting blood sugar levels when indicated

Clinical evaluation of patients was by the medical staff and was tabulated daily by one of us (A S) on prepared forms Only objective criteria were used These included the temperature response, progression or remission of paralysis muscle spasm and tenderness and later orthopedic follow-up for recovery from residual paralysis Paired serum and stool specimens were collected from a number of patients and stored for future use

RESULTS

The total number of cases in the study appears to be adequate to give a definite and clearcut answer to the questions posed As shown in table 2, the median day of hospitalization was almost identical for the two groups as was the distribution of paralytic and nonparalytic cases Practically every patient had a low eosinophil count an admission Two patients who later died had zero eosinophil counts on admission In the control group the eosinophil count rose gradually to normal levels on the second hospital day, with a continued rise or rebound to higher levels on the fifth to seventh day The group receiving pituitary adrenocorticotropic hormone had a sharp drop in the eosinophil count four hours after the first dose, and the count remained down until the drug was discontinued, when a more decided rebound occurred The average eosinophil count of each group is plotted in the accompanying chart, which also shows that the rebound of eosinophils was delayed one day longer in the 17 patients who received the drug for five days instead of four days The higher initial eosinophil count in the group which received the drug is caused by 1 patient who had an initial count of 2,100 per cubic millimeter If this count is omitted both groups have an average initial count between 50 and 60 per cubic millimeter



Eosinophil response in poliomyelitis *W*, average count of 35 patients who received a placebo every six hours for four days *R* average count of 18 patients who received pituitary adrenocorticotropic hormone in decreasing doses every six hours for four days and R_2 average count of 17 patients who received a constant dose of the hormone every six hours for five days The base line indicates the time after therapy

TABLE 2—*Distribution of Cases*

	Control	Pituitary Adrenocorticotropic Hormone
Total number	35	35
Median day of hospitalization	2.6	2.5
Nonparalytic	13	12
Paralytic	22	23
Percentage paralyzed	63	66
Deaths	0	1

Excretion of 17-ketosteroids was determined in 11 patients The first twenty-four hour urine specimen was collected on the second day of hormonal therapy and the control specimen on the tenth hospital day, five or six days after therapy was discontinued The results shown in table 3 are somewhat variable, but it seems clear that the control cases had no increased 17-ketosteroid excretion in the two specimens tested With 1 exception, patients treated with the hormone had higher levels in the first specimen while under the influence of administration of the adrenocorticotropic substance

We concluded from the eosinophil counts and 17-ketosteroid excretion levels that the dosage of pituitary adrenocorticotropic hormone was adequate to produce a physiologic effect

The course of the disease in individual patients was extremely variable, and in some patients use of the hormonal agent seemed to have effected a dramatic termination of fever and paralysis In fact after we had treated 7 patients in each group it appeared that the 7 receiving the pituitary adrenocorticotropic hormone were benefited Here we wish to stress the fallacy of drawing conclusions from a few cases, for with increased numbers of patients it became quite clear that there was no detectable difference between the two groups Table 4 shows the distribution of cases on the basis of clinical type of poliomyelitis

TABLE 3—*Urinary Excretion of 17-Ketosteroids, Milligrams per Twenty-Four Hours*

				Hospital Day	
Name	Age	Sex	Medication *	2	10
E L	15	M	Treated	16.1	4.87
P F	7	F	Treated	2.20	0.34
B M	13	M	Treated	14.3	6.55
W W	7	M	Treated	1.72	1.61
H D	16	M	Treated	32.6	13.81
R R	9	M	Treated	5.02	3.65
K W	24	M	Treated	12.41	12.6
G E	6	M	Control	1.08	1.06
E H	6	M	Control	1.10	0.55
R S	7	M	Control	2.05	1.0
W S	8	M	Control	1.17	0.6

* Treated patients received pituitary adrenocorticotropic hormone controls received crystalline penicillin solution or isotonic sodium chloride solution

In table 5 it is obvious that the average days of fever in the control and treated groups was 5 6 and 5 7 days, respectively, and the average days of fever after treatment was 2 9 and 2 8 days Paralysis progressed in the control group for 4 5 days from onset and for 2 4 days after treatment was started and in the treated group the figures were 4 4 days from onset and 2 2 days after treatment

Frequent examination of patients by members of the orthopedic staff of the Children's Medical Center did not reveal any difference between treated and control patients in the degree of spasm, pain and tenderness or the duration of the sensitive stage The long-term follow-up of these patients is being carried out

SUMMARY

The 'alarm reaction" is mobilized in poliomyelitis as shown by the eosinophil response In these patients, pituitary adrenocorticotropic hormone (ACTH) produced a physiologic effect as evidenced by a further depression of the eosinophil count and by increased excretion of 17-ketosteroids There was no demonstrable effect in the treated as compared to the untreated group when evaluated on the basis of (1) temperature response, (2) paralysis, (3) progression of paralysis or (4) early residual effects

Statistical analysis shows clearly that pituitary adrenocorticotropic hormone has no beneficial or obvious deleterious effect on the course of poliomyelitis when treatment is begun after the onset of symptoms

Table 4—*Number of Cases of Poliomyelitis of Various Clinical Types*

	Control	Pituitary Adreno-corticotropic Hormone
Nonparalytic	13	12
Spinal without respiratory involvement	13	16
Spinal with respiratory involvement	0	1
Bulbar without respiratory involvement	8	4
Bulbar with respiratory involvement	1	2
Total	35	35

Table 5—*Average Days of Fever and Paralysis Progression in Treated and Control Groups*

	Fever *				Paralysis *			
	Total		After Treatment		Total		After Treatment	
	W	R	W	R	W	R	W	R
Nonparalytic	5.0	5.3	2.9	3.0				
Spinal	5.7	5.7	2.8	3.1	5.4	4.8	2.7	2.9
Bulbar	6.2	6.0	3.0	2.3	3.7	3.9	2.2	1.6
Average	5.6	5.7	2.9	2.8	4.5	4.4	2.4	2.2

* W indicates the control patients who received the placebo R the treated patients who received pituitary adrenocorticotropic hormone

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Physicians as Citizens—Physicians, as good citizens, possessed of special training should advise concerning the health of the community wherein they dwell They should bear their part in enforcing the laws of the community and in sustaining the institutions that advance the interests of humanity They should cooperate especially with the proper authorities in the administration of sanitary laws and regulations—Section 1, Chapter IV of the Principles of Medical Ethics of the American Medical Association

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LIFE SITUATIONS, EMOTIONS AND HYPERINSULINISM

SIDNEY A PORTIS M D
Chicago

In December 1942 I presented for the opening meeting of the American Psychosomatic Society a preliminary report on 'A Mechanism of Fatigue in Neuropsychiatric Patients "[1] Subsequently, Alexander and I[2] reported a psychosomatic study of hypoglycemic fatigue This latter communication and the preliminary report were confined to describing a well defined group of psychoneurotic patients with an associated peculiarity of carbohydrate metabolism, manifested by flattening of the intravenous dextrose tolerance curve as in hypoglycemia The psychologic condition can be described best as an asthenic syndrome, the outstanding features being apathy, loss of zest, a general let-down feeling of aimlessness and revulsion against the routine of everyday life, be it occupational or household duties Seldom is this apathy connected with anxiety or a pronounced depression Another constant feature is fatigue, chronic or appearing in acute attacks The fatigue has certain fairly constant features It is present as a rule on awakening, becomes slightly more severe by midmorning, temporarily improves after luncheon and is most marked in midafternoon There is practically always complete relief after the heavy evening meal The patient may awaken with a severe headache, which is manifest also during the midafternoon fatigue Along with this chronic fatigue there may be acute attacks of extreme weakness, tremulousness, sweating and vertigo At times a feeling of "lightheadedness" may be manifest The acute attacks may be associated with anxiety of fainting or free-floating anxiety

Spontaneous hypoglycemia has been noted by many investigators, who have attempted to define the variety of settings in which it occurs Harris,[3] Ross and Josephs,[4] Wauchope,[5] Conn, Wilder and others have reviewed the subject

The blood sugar level may fall after interference with any one of several factors in the normal homeostatic mechanism Hepatic disease and disease of the pancreas, either from known adenoma or from hyperplasia of the islands of Langerhans, have been cited as important factors which may cause spontaneous hypoglycemia Faulty diet, including errors in intake of carbohydrates and the lack of assimilable vitamins, also has been a known factor The pituitary-adrenal syndromes of Simmonds' disease and Addison's disease have long been recognized as associated with hypoglycemic manifestations Rennie and Howard[6] studied hypoglycemia and tension depression in neuropsychiatric cases With their oral dextrose tolerance test they discovered the so-called flat curves and found that when the patients were recovering from their tension depressive symp-

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From the Medical Departments of Michael Reese Hospital and the College of Medicine of the University of Illinois

Read before the Association for Research in Nervous and Mental Diseases Dec 2 1949 New York. To be printed as a part of the transactions of this association.

[1] Portis S A and Zitman I H A Mechanism of Fatigue in Neuropsychiatric Patients J A M A **121**: 569 (Feb 20) 1943

[2] Alexander F and Portis S A A Psychosomatic Study of Hypoglycaemic Fatigue Psychosom Med **6**: 191 (July) 1944

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toms the oral dextrose tolerance curve returned to near normal

I was interested in this hypoglycemic stage of the disease because so-called pernicious inertia was the most prominent symptom of a patient who was referred to me by a neuropsychiatrist and of a group of patients later seen in the office I therefore undertook a study of the underlying metabolic processes, particularly as they affected dextrose metabolism, to see whether I could not in some way determine the factors which produced the hypoglycemia

SURVEY OF THE LITERATURE

Although many factors are involved in the homeostatic mechanisms which maintain blood sugar levels, those mechanisms associated with the insulin regulatory system are most important to this study

The exact manner in which the secretion of insulin is controlled is as yet undetermined Two main theories have been propounded to explain this phenomenon the neurogenic and the humoral Unfortunately, neither explains all the various manifestations Proof must come from indirect determinations since the quantity of insulin present in the blood stream is too low to be determined by chemical means or biologic assay

Neurogenic Theory—That both myelinated and nonmyelinated nerve fibers supply the islands of Langerhans was demonstrated in 1902 by Gentes [7] Further, it was shown by McCrea [8] that these fibers are in communication with branches of the right vagus nerve

Many workers have observed the effects of stimulation of the right vagus nerve on the blood sugar level Britton [9] reported a decrease in blood sugar following such stimulation However, this occurred only when the pancreatic vein was intact An increase in insulin secretion into the pancreatic duodenal vein after vagal stimulation was noted by Dietrich [10]

A fundamental contribution was made by Clark,[11] who reported that drugs which stimulate the parasympathetic nervous system produce a fall in the blood sugar level of intact rabbits, this effect did not occur after section of the vagus nerve

The foremost proponents of the vagal stimulation theory have been La Barre and his associates,[12] who reported that the normal dextrose level of a dog may be reduced by transfusion of blood from the pancreatic vein of another animal during stimulation of its right vagus nerve

Pursuing this problem further, these same investigators [13] seem to have established that a center in the thalamus stimulates the pancreatic secretion of insulin when the blood sugar rises, impulses being transmitted through the vagus tracts to the islet tissue Using 3 dogs with isolated circulatory and nervous systems, they discovered that, although removal of the cerebral hemispheres did not prevent the hyperinsulinism resulting from transfusion of hyperglycemic blood through the isolated head, removal of the thalamus did abolish this hyperinsulinism However, Gayet and Guillaume [14] were unable to confirm these results

Humoral Theory—Those who support the theory of humoral control believe that the blood sugar level acts directly on the pancreas to control insulin secretion This view has been given support by the work of Phillips,[15] who reported that vagotomy has no effect on sugar tolerance, and by Long and Fry,[16] who claimed that glycogen resynthesis in muscle is not influenced by section of the vagi

Houssay and his co-workers [17] have shown that the pancreas can produce its own internal secretion after all its extrinsic nerve supply has been removed and that the control of insulin secretion is directly dependent on the blood sugar level Most workers seem to agree that the blood sugar level is the primary factor but that the neurogenic factor serves in emergencies

Not much evidence substantiates the claim that the secretion of insulin is dependent on other hormones produced by the endocrine glands, with their secretion in turn controlled by the blood sugar level

The presence of a "pancreatropic" factor in the pituitary gland has been claimed by some, while others have expressed the belief that thyroid extract sensitizes the islet cells for the secretion of insulin

A more comprehensive view has been taken by Soskin and his collaborators,[18] who have stated the opinion that the output of insulin is relatively constant, with a homeostatic blood sugar–regulating mechanism depending primarily on the liver and controlled by the opposing influences of the pituitary, adrenal and pancreatic hormones

EXPERIMENTAL EVIDENCE

In view of these theories and the fact that the psychoneurotic patients studied showed hypoglycemia as an important factor in their fatigue, I searched for further light on this hypoglycemic factor in man There is voluminous psychiatric and medical literature concerning the effect of emotional impulses on the somatic system It is well known also that continued physiologic activity in a tissue may lead to either hypertrophy or hyperplasia, depending on the type of tissue

Since the pancreas is an end organ and subject to vagal stimulation, I considered it logical to assume that the hypoglycemia of psychoneurotic patients is due to long-continued stimulation of the right vagus nerve This assumption was based on the hypothesis that emotional processes occur somewhere in the highly integrated cortical centers and that the emotional impulses first go through the hypothalamus and are relayed to the sympathetic and parasympathetic portions of the autonomic nervous system During fatigue, the stimulation by emotional impulses traversing this pathway would be nearly constant It might even be possible that certain emotions would follow definite pathways in the nervous system, localizing in particular organs, and this stimulation might lead to increased activity and irritability of the cells of the islands of Langerhans The manifestation might be temporary or prolonged, depending on the degree and duration of the psychic and emotional impulses

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[7] Gentes, M *Notes sur les terminaisons nerveuses d'ilots de Langerhans du pancreas*, Compt rend Soc de biol **54** 212, 1902

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[13] La Barre, J The Role of the Central Nervous System in the Control of Pancreatic Secretion I The Secretion of Insulin During Hypoglycemia, Am *J Physiol* **94**: 13 (July) 1930

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[16] Long, C N H , and Fry, E G The Effects of Vagotomy on Muscle Glycogen Resynthesis, Am *J M Sc* **185** 884 *(June) 1933*

[17] Houssay, B A , Lewis J T , and Foglia V G La fonction endocrine au pancreas normal ou enerve pendant l'hypoglycemic insulinique Compt rend Soc de biol **101** 239 (May 24) *1929*

[18] Soskin S , Allweiss, M D , *and* Cohn, D J Influence of the Pancreas and Liver on the Dextrose Tolerance Curve, Am J Physiol **109** 155 (July) 1934 Soskin, S , Mirsky, I A , Zimmerman, L M , and Heller, R C Normal Dextrose Tolerance Curves, *in the* Absence of Insulin, in *Hypophysectomized* Depancreatized Dogs, Am J Physiol **114** 648 (Feb) 1936

In order to establish the validity of this assumption, I studied a large group of patients whose outstanding symptom was fatigue, which could not be explained by thorough physical and routine laboratory investigation, including a determination of blood sugar during fasting However, because of the fairly constant periodicity of the fatigue, a relation to carbohydrate level was sought This was suggested by the flat intravenous dextrose tolerance curve of the first patients studied, in the absence of any of the known causes, including islet cell adenoma of the pancreas

To obtain evidence of changes in the carbohydrate metabolism, the standard intravenous dextrose tolerance test described by Soskin was used Since gastrointestinal motility is readily influenced by emotional factors and the rate of absorption of dextrose from the gastrointestinal tract is affected by motility and by cellular changes in the wall of the intestine, the oral dextrose tolerance test was not considered suitable in a metabolic investigation affecting mechanisms of blood sugar control Furthermore, the initial increase of blood sugar is far greater with the intravenous than with the oral test, so that one can logically expect a greater immediate response in secretion of insulin The technic used for the intravenous dextrose tolerance test is as follows

TABLE 1—*Mean Standard Deviation and Coefficient of Variation of Blood Sugar Tolerances in 157 Patients with Fatigue and in 772 Controls**

		Mean	Standard Deviation	Coefficient of Variation
(Flat)	Fasting	78	12	15
	½ hr	100	4	4
	1 hr	81	15	17
	1½ hr	73	14	18
	2 hr	70	13	18
	3 hr	75	13	17
(Control)	Fasting	85	12	14
	½ hr	147	26	17
	1 hr	112	21	18
	1½ hr	91	17	18
	2 hr	81	14	17
	3 hr	83	21	25

* These figures reveal that the most significant differences occur at the 30 and 60 minute levels of blood sugar the 30 minute being the most significant (See text)

The patient presents himself after a twelve hour fast (no morning bath no water by mouth except for oral hygiene) and is weighed A blood sample for determining fasting sugar is withdrawn The patient is then given 0 33 Gm. of 50 per cent dextrose per kilogram of body weight with a large syringe (50 or 100 cc type) The time for administration is usually between two and five minutes, depending on the age of the patient Samples of blood are then withdrawn at 30, 60, 90 120 and 180 minute intervals (Somogyi method of true blood sugar determination) The results of these values are noted and charted. (The amount of sugar in the urine was not determined during the test, because no clinical significance appeared to be attached to the results)

Care must be exercised to prevent stagnation of venous blood during the taking of any one sample

This test was performed on 929 patients, of which 157 had a so-called flat curve (table 1, fig 1)

This series comprised a group of patients who had consulted me for complaints in which psychogenic factors played a more or less predominating role I was interested in studying the carbohydrate metabolism not only of patients suffering only from fatigue but of a larger group of patients with psychosomatic problems While there was only slight variation in the fasting blood sugar between the two groups, there was a marked difference in blood sugar level thirty minutes after injection In not one of the 929 patients did the third hour level reach the original fasting level This is important in studying the carbohydrate metabolism of emotionally disturbed persons[19] In the fatigue group because of the low level at thirty minutes, the curves were flat in comparison with those in the other group The term "flat curve" is justifiable in comparison with the curves of both normal persons and patients without fatigue as a predominating symptom Therefore the finding is significant in the clinical picture of the syndrome previously described Alexander and I have already reported that these values represent relative hypoglycemia

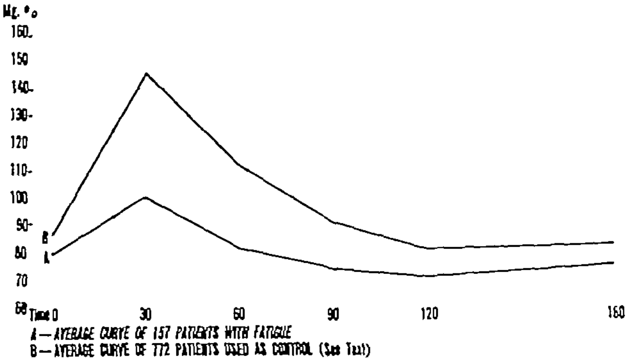

Fig 1—Intravenous dextrose tolerance test of fatigue and control groups

The term hypoglycemia refers ordinarily to blood sugar values consistently below the average normal range Thus it covers values below 60 mg % The signs and symptoms of the hypoglycemic syndrome appear generally when the blood sugar level reaches < 30 40 mg % However, it has been observed experimentally and clinically that the typical symptoms may appear at levels of 100 mg % (Mann in depancreatized dogs also adrenalectomized animals) or may not be present even when the blood sugar has almost vanished from the blood (case of Parnas and Wagner with blood sugar of 0 for days) The precise relation between blood sugar level and central nervous system symptoms in any particular case is not understood at present

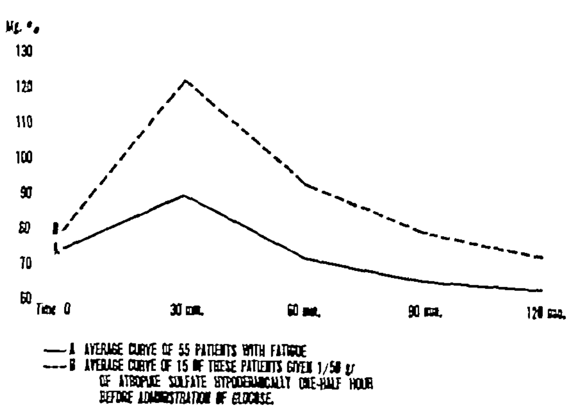

Fig 2—Intravenous dextrose tolerance tests

Cases which present symptoms analogous to the hypoglycemic syndrome and which are benefited by a rise in blood sugar—

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[19] Portis, S A Idiopathic Ulcerative Colitis Newer Concept Concerning Its Cause and Management J A M A **139** 208 (Jan 22) 1949

even though these symptoms are present at blood sugar levels normal for other persons—may for the sake of uniformity and a working hypothesis be termed "relative" hypoglycemia The term relative would express the supposition that these particular persons have "normal" blood sugar levels which are "hypoglycemic" for them (for their central nervous system)

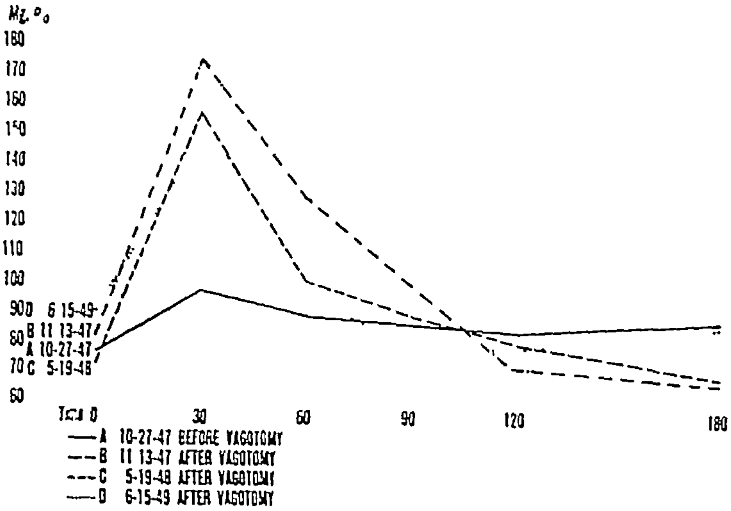

Fig —Intravenous dextrose tolerance tests before and after vagotomy

The hypoglycemia due to islet cell adenoma of the pancreas is, as a rule, more severe than that seen in functional hyperinsulinism For instance, the fasting and two hour blood sugar levels are usually below 40 mg, a level never seen among fatigue patients with functional hyperinsulinism Furthermore, the initial fasting level of fatigue patients is only between 6 and 10 mg below that of normal persons

If the flat curves are the result of increased stimulation of the right vagus nerve, then paralysis of the vagus nerve with atropine sulfate should abolish this influence Fifteen of the first 55 patients (fig 2) were treated in the following manner

A sample of the fasting blood was taken, as previously described The patient was then given 1/50 grain (1 3 mg) of atropine sulfate hypodermically After a half hour for adequate pharmacologic action of the drug, another blood sample was withdrawn Immediately thereafter 50 per cent dextrose was injected as in the previous test, which had given a "flat curve," and blood samples were withdrawn at the usual intervals[20]

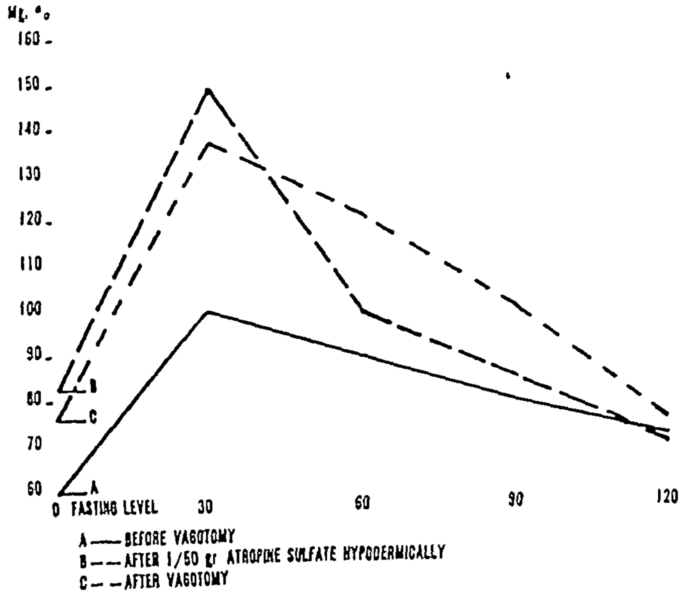

Fig 4—Intravenous dextrose tolerance studies before and after vagotomy

In these 15 atropinized patients, the thirty minute blood sugar level resembled that of normal persons Because of the uniformity of results in this group, I felt that there was no need to subject a large group to this test

Although flattening of the intravenous dextrose tolerance curve is rare among patients with peptic ulcer, 2 patients with a flat curve were studied before and after subtotal gastrectomy and high infradiaphragmatic vagectomy Tables 2 and 3 and figures 3 and 4 show that the half hour blood sugar levels after complete vagectomy were even higher than those of atropinized patients Furthermore, in 1 case this return to a near normal curve had persisted for more than a year at the time this report was written (fig 3)

On the basis of these laboratory data, I believe that the fatigue in the patients studied is due to relative hypoglycemia, which is presumably related to some emotional situation characterized by loss of spontaneous zest and revulsion against routine activities This results in a disturbance of the homeostatic mechanism regulating the blood sugar concentration Such a mechanism is probably responsible for the chronic asthenic syndrome and for occasional attacks of weakness and fatigue Apparently the emotional tension to which one ordinarily refers as zest, enthusiasm or interest keeps up the tonus of the vegetative innervations, maintaining a balance between the sympathetic adrenal and the parasympathetic insular tonus If one could extend Cannon's fundamental observations, one might assume that outwardly directed activity of the organism in which it participates with enthusiasm, zest and spontaneous striving has a tuning up effect on the sympathetic adrenal system which is qualitatively similar to that of fear and rage Fear and rage are extreme conditions in which the organism is tuned up for an outwardly directed activity in an emergency

Table 2—*Intravenous Dextrose Tolerance Test Before and After Vagotomy*

	Before Vagotomy 10/27/47	After Vagotomy 11/13/47	After Vagotomy 5/19/48	After Vagotomy 6/15/49
Fasting	77	83	73	90
30 min	98	175	157	140
60 min	90	130	102	98
90 min			91	80
120 min	85	73	82	80
180 min	90	69	71	88

The main function of the autonomic nervous system is to adapt the internal vegetative functions of the organism to the tasks it is called on to perform On the basis of these observations it may be assumed that, like rage and fear, a keen enthusiastic striving for a goal may have a similar, more prolonged but less intensive tuning up effect on the internal vegetative processes It is probable that without such a tuning up, sustained effort could not be carried out with economy It is well known that perfunctory activity performed without emotional participation is more fatiguing than even strenuous activity performed with emotional participation Clinical observations seem to indicate that fatigue and apathy developing during activity performed without interest are not merely subjective emotional states but are based on the lack of adaptation of the carbohydrate metabolism to the effort required from the organism Apparently the brain needs adequate dextrose at all times for its physiologic balance When relative hypoglycemia supervenes, the brain will not exteriorize its emotional patterns to a degree compatible with a stable emotional household Apparently the neuron reacts to the first drop in blood sugar by becoming irritable, and only when the blood sugar has been low for a long time does the neuron become unresponsive (hypoglycemic coma)

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[20] Portis, S A The Medical Treatment of Psychosomatic Disturbances, J A M A **126** 413 (Oct 14) 1944

TREATMENT

These observations led to the development of a therapeutic approach to the problem

Diet—To insure against the giving of too much readily absorbable carbohydrates in the form of simple sugar, the following diet was outlined

Diet Suggested for Fatigue Patient

Foods Allowed	
Cereals	All types preferably whole grain cooked or dry one serving daily
Bread	Enriched white whole wheat or rye bread (white crackers melba toast or Holland rusk if desired)
Soups	Vegetable milk soups or lean meat stock soups
Meats	Lean meat or fowl i e beef lamb veal liver chicken or turkey to be broiled boiled or roasted not fried crisply broiled bacon with fat drained off on occasion
Fish	Lean fresh water fish (whitefish perch pike trout or bass broiled boiled poached or baked shrimp lobster or oysters if desired)
Eggs	One or two daily soft boiled poached shirred or soft scrambled not fried
Cheese	Cottage cream mild American or mild Swiss
Vegetables	*Three or more servings daily of any type of cooked or raw* vegetable with the exception of raw onions radishes cucumbers or sauerkraut (at least one serving daily of a raw green leafy vegetable)
Potatoes	Prepared any way except fried
Fruit	*At least three servings daily of any type* canned stewed or fresh (syrup should be removed from any canned or stewed fruit that is used At least one serving daily should be of citrus fruit i e 1 orange ½ grapefruit or the juice of either)
Desserts	Simple puddings jello sponge or pound cake (without icing) vanilla wafers and fruit as specified above
Beverages	Milk buttermilk tea coffee cocoa and unsweetened fruit juices
Butter	As desired
Foods to Avoid	
	Cakes with icings sugar candy pie pastry jelly honey and syrup grape and prune juice alcoholic and carbonated beverages fat meat and fish fried foods
Avoid	Tobacco

Sample Menu

Breakfast	Luncheon	Dinner
Orange juice	Cream of vegetable soup	Tomato juice
Oatmeal	Broiled lake trout	Broiled lamb chops
Poached egg	Chopped spinach	Baked potato butter
Toast	Fruit salad	Julienne carrots
Butter	Bread	Combination salad with dressing
Coffee	Butter	Bread
No sugar	Baked cup custard	Butter
	Tea or coffee	Baked apple
	No sugar	Tea or coffee
		No sugar

Snacks

10 a m Milk 6 oz. 3 p m Milk 6 oz.
Bedtime Milk 6 oz. buttered toast fruit

Cellu* sugarless sweetener or saccharine may be used instead of sugar

* Registered trade name

Free sugar in any form was omitted on the basis of the following evidence 1 The slow injection of dextrose into normal dogs greatly increased their tolerance to subsequent more rapid injection 2 The deamінization of protein and the formation of carbohydrate in the liver occur slowly, and therefore dextrose will be secreted over a long period and postdigestive hypoglycemia will be delayed if necessary to the next intake of food However, more frequent feedings than the normal three meals a day were used as an additional factor of safety A feeding before retiring was added to prevent hypoglycemic manifestations (possibly associated with the "night" pains of peptic ulcer) between the last regular meal at night and the subsequent breakfast The patient receives his three main meals, a midmorning feeding, one or two midafternoon feedings and a feeding before he retires at night

Too much emphasis cannot be placed on the importance of a good wholesome breakfast The menus outlined show the weight which I attach to this observation Many persons rush to their occupations without being fortified with needed calories to do the day's work This is especially true of women, who seem proud that they eat little, particularly at breakfast only to have their efficiency proportionately reduced by limitations of diet Absenteeism is noteworthy among women workers who go regularly without breakfast One of the most important functions of food is to give the brain an adequate amount of dextrose at all times Therefore it may be assumed that a possible vicious circle may exist—first starvation, then altered carbohydrate metabolism due to these stimuli and finally the escape mechanism of fatigue

Medication—At the outset it was evident that dietary management alone would not suffice, that drugs which paralyze the parasympathetic nervous system would be needed to prevent emotional stimuli from reaching the pancreas Clinical experimental studies have shown that atropine will raise the blood sugar level and it continuously given should and probably does maintain a relatively high blood sugar level at all times No other parasympatholytic drug was found as effective Therefore, to insure complete atropinization, these patients were given atropine three times a day at meals in doses varying from $\frac{1}{75}$ to $\frac{1}{200}$ grain (1 to 0 3 mg) and at bedtime from $\frac{1}{100}$ to $\frac{1}{200}$ grain (0 6 to 0 3 mg) If undue dryness of the mouth or visual disturbance was noted, the dose was reduced Extreme care was used in giving atropine to elderly patients, because it might precipitate acute glaucoma For persons with evident eye disease, atropine was distinctly contraindicated In only 1 case in over 1,200 in which atropine was used for the fatigue or other psychosomatic disturbances was an allergy to the drug noted

TABLE 3—*Intravenous Dextrose Tolerance Test Before and After Vagotomy*

	Before Vagotomy	Atropine 1/50 Grain Hypodermically	After Vagotomy
Fasting	60	83	76
30 min	100	150	138
60 min	90	100	122
90 min	80	85	101
120 min	72	71	76

As the fatigue improved, the dose of atropine was gradually reduced Fatigue disappeared under this management The period of therapy varied from six months to two years After the cessation of atropine sulfate, intravenous dextrose tolerance tests showed blood sugar levels much higher than the original values, in many patients they resembled those of normal persons A typical example of the result of combined medical and psychiatric treatment is shown in figure 5

The dose of atropine was sometimes markedly reduced without the patient's knowledge, and fatigue reappeared During the early weeks and months of management, if fatigue persisted, the dose of atropine was increased until the fatigue completely disappeared

The rapidity of improvement of patients placed on this therapeutic regimen was striking The small group of patients psychiatrically controlled showed an improved psychologic status and a definite reduction of the period during which psychotherapy was needed By this regimen the psychiatrist can be aided by the patient's more normal metabolism and his task made definitely easier

I have been particularly impressed by the good clinical results, with the patient able to lead a more nearly normal existence, the improvement in his emotional state, the return of zest and enthusiasm and the increased efficiency The possibility of helping out semi-invalided patients is gratifying

However, a note of warning must be issued The disappearance of fatigue may stimulate overactivity and elderly patients must be told to engage in only those activities compatible with their age and the status of their cardiovascular system This treatment should not be considered a 'fountain of youth" The treatment does not attack the cause of the original disturbance, which, once set up, was perpetuated, but it counteracts the pathologic function Apparently it assists the neurons in dealing with emotional disturbances at a high cortical level, a conclusion attested by the fact that the patients become more susceptible to psychotherapy after dietary and pharmacologic treatment

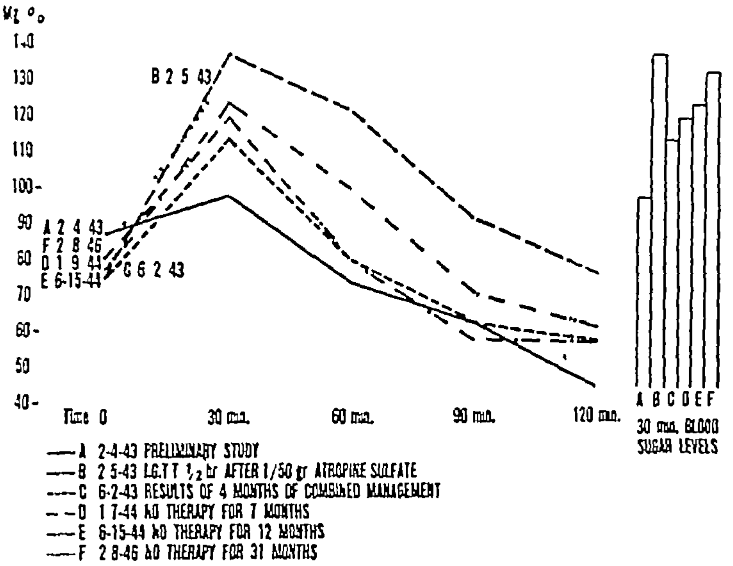

Fig 5—Studies of a patient suffering from fatigue before and after medical and psychotherapeutic management I G T T (*B*) indicates intravenous dextrose tolerance test

CONCLUSIONS

1 Life situations and emotions may produce a symptom complex resulting in fatigue

2 There is experimental and clinical evidence to show that hyperinsulinism is a possible mechanism

3 The hyperinsulinism may be the result of temporary or prolonged stimulation of the right vagus nerve resulting from emotional processes being relayed through the hypothalamus to the autonomic nervous system

4 The injection of atropine sulfate prevents this stimulation and allows the blood sugar curves to return to near normal

5 This hyperinsulinism produces a relative hypoglycemia

6 A diet low in free sugar has produced definite clinical improvement

7 Atropine sulfate given orally four times a day probably helps to maintain a higher level of blood sugar at all times and prevents possible fatigue

8 Patients treated psychotherapeutically and medically could be returned to near normal status

104 South Michigan Avenue

Clinical Notes, Suggestions and New Instruments

IDIOSYNCRASY TO AMMONIATED MERCURY

Treatment with 2,3 Dimercaptopropanol (BAL)

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Ammoniated mercury is an effective antiseptic ointment and is therefore widely used However, standard pediatric textbooks have not described adequately the untoward complications which may arise from the absorption of mercury so applied, and unless the clinician has had wide experience or is well versed in pediatric or dermatologic literature, so-called calomel disease, which in this case developed from ammoniated mercury can be baffling

Because the question[1] whether such an ointment (5 per cent ammoniated mercury) applied to the scalp could give rise to a toxic reaction was asked while this patient was convalescing we report this case

In comparable cases reported in the literature by Harper, Bass,[3] Wilbar,[4] Samitz[5] and Fanconi and co-workers[6] the patients recovered without specific therapy In this instance we believe that without the administration of 2,3-dimercaptopropanol (BAL) the outcome might have been fatal

REPORT OF A CASE

A 3 year old girl was examined on July 26, 1948 because of several small bald areas on the scalp The diagnosis of seborrheic dermatitis of the scalp was made, and 3 per cent ammoniated mercury in an ointment base (velvachol) was prescribed This ointment was applied to the scalp twice daily for three days, at which time a temperature of 103 F was noted and a diagnosis of acute pharyngitis was made A triple sulfonamide mixture was prescribed, and the application of ammoniated mercury was discontinued The patient received three doses of the sulfonamide mixture, each of which was vomited The fever subsided promptly, and two days later the ammoniated mercury treatment of the scalp and inflamed areas of the forehead was reinstituted Within forty-eight hours an erythematous rash had developed over the face and body and the fever had recurred

The patient was examined on August 3 A diagnosis of dermatitis medicamentosa was made, and the ammoniated mercury treatments were discontinued The patient was reexamined on August 10 The fever had persisted, except when lowered by the administration of acetylsalicylic acid tablets, and the rash was worse Examination revealed a generalized morbilliform rash and generalized lymphadenopathy, most severe in the postauricular and suboccipital areas The temperature was 103 F The red blood cell count was 4,000,000, the hemoglobin was 13 Gm, and the white blood cell count was 5,850 with 39 per cent polymorphonuclear cells, 46 per cent lymphocytes, 3 per cent monocytes and 12 per cent eosinophils The child had no particular complaint, was still active and had a fair appetite

The child was admitted to the hospital on August 16 with a temperature of 105 F Examination revealed the morbilliform rash to be more confluent and violaceous in hue The

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From the Department of Pediatrics, Scott and White Hospital

[1] Ammoniated Mercury, Queries and Minor Notes, J A M A **138** 256 (Sept 18) 1948

[2] Harper, P Idiosyncrasy to Ammoniated Mercury Ointment Report of Two Cases, J Pediat **5** 794 (Dec) 1934

[3] Bass M H Idiosyncrasy to Ammoniated Mercury Ointment in Children Urol & Cutan Rev **45** 78 (Feb) 1941

[4] Wilbar, C L, Jr Mercury Poisoning from Topical Application of 15 per Cent Ammoniated Mercury Ointment J Pediat **20** 89 (Jan) 1942

[5] Samitz, M H Eczematous Contact Dermatitis Due to Mercurials Report of a Case of a Reaction to 10 per Cent Ammoniated Mercury Ointment and Associated with Mercurial Poisoning, Arch Dermat & Syph **50** 10 (July) 1944

[6] Fanconi G Botsztejn, A and Schenker, P Ueber empfindlichkeitsreaktionen auf Quecksilbermedikation im Kindesalter mit besonderer Berucksichtigung der Calomelkrankheit Helvet paediat acta (supp 4) **2** 3 1947

scalp was dry and scaling The patient was anorexic listless and irritable Routine urinalysis revealed no abnormalities The red blood cell count was 3 520 000 hemoglobin 11 5 Gm and the white blood cell count 8,000, with 40 per cent polymorphonuclear cells, 33 per cent lymphocytes, 12 per cent monocytes 1 per cent basophils and 14 per cent eosinophils

Penicillin 100 000 units every three hours was given for forty eight hours without noticeable effect on the course of the illness The temperature curve was unremitting at 104 F except when temporarily lowered with enemas and tepid baths until specific treatment was begun later On August 18 the white blood cell count was 4,500, with 6 per cent polymorphonuclear cells, 41 per cent lymphocytes 30 per cent monocytes and 23 per cent eosinophils On August 19 there were 30 per cent eosinophils By August 20 the child s condition suggested clinical acrodynia She exhibited insomnia and extreme agitation manifested by wringing and rubbing her hands scratching her lips and tongue, pulling her hair and beating her head against the crib walls She was completely anorexic and refused all liquids Her blood pressure at this time was 100 systolic and 80 diastolic Spinal fluid examination on August 21 revealed normal conditions Reactions to heterophil antibody and Weil Felix agglutination tests were negative Because of the development of multiple paronychia and purulent rhinitis penicillin, 100 000 units every six hours was started on August 22 Prompt control of these infections occurred and penicillin therapy was discontinued on August 25

In view of the deteriorating state of the patient in spite of supportive parenteral treatment a clinical diagnosis of acrodynia due to ammoniated mercury was made on August 23 After collection of a urine specimen for determination of mercury treatment with BAL, according to the recommendation of Bivings and Lewis[7] was instituted

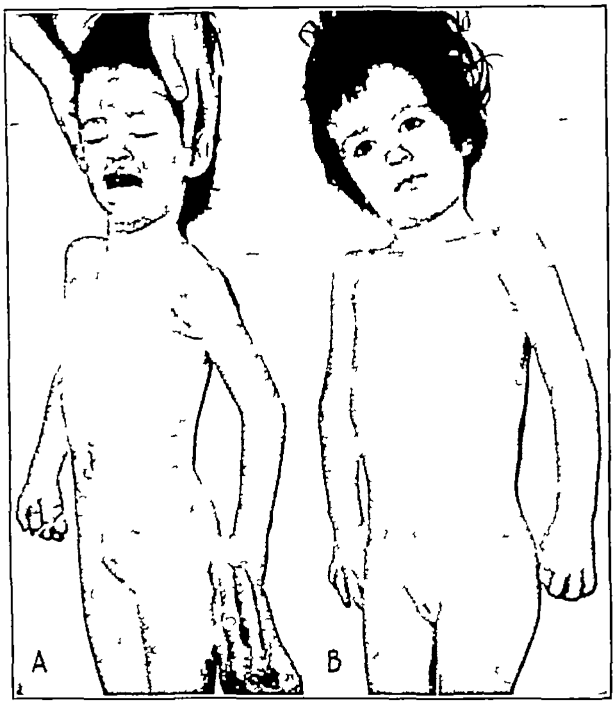

Fig 1 —*A* photograph taken at beginning of 2 3 dimercaptopropanol (BAL) administration August 23 *B* photograph taken August 31 after BAL therapy

Figure 1 demonstrates the improvement resultant from specific treatment The patient began to take nourishment within twenty-four hours and was afebrile within forty eight hours BAL therapy was discontinued on the seventh day of treatment because the child complained of transient itching of the hands after each dose. The patient was dismissed on September 1 and was well on October 11, when the residuum of her illness was photographed (fig 2) On the latter date the white blood cell count was 9,250, with 39 per cent polymorphonuclear cells 49 per cent lymphocytes 8 per cent monocytes and 4 per cent eosinophils

The urinary mercury determinations, obtained by Dr Warkany through the facilities of the Kettering Laboratories were reported on October 4 A specimen obtained August 23 before BAL therapy showed 0 12 mg of mercury per liter A specimen obtained September 18 after treatment with BAL, showed 0 02 mg of mercury per liter The initial determination revealed according to Warkany[8] an appreciable amount of mercury comparable to that found in cases of acrodynia

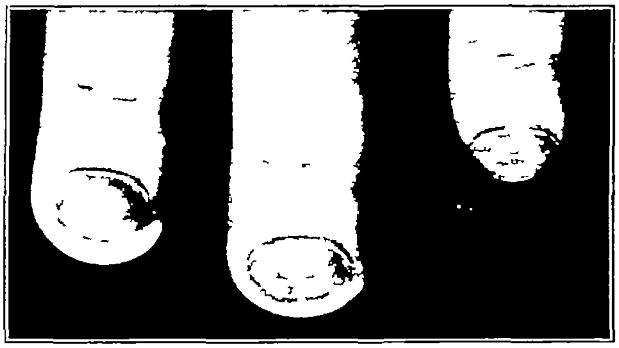

Fig 2 —Photograph showing disturbance of keratin formation during period of mercury intoxication

COMMENT

Harper[2] in 1934 reviewed the literature of the past hundred years and found 5 cases of poisoning from the local application of ammoniated mercury He reported two cases and expressed *the opinion that a toxic reaction from local application is* more common than the literature would indicate His first case showed 9 per cent eosinophils on one examination The course of illness was twenty-four days The second patient had a course of thirty days Bass[3] in 1941 reported 5 cases of idiosyncrasy to ammoniated mercury and emphasized the fact that the diagnosis was missed chiefly because the physician was not aware of the clinical picture which such idiosyncrasy may present. Samitz[5] quotes Wise and Sulzberger who stated Millions use these preparations (yellow mercuric oxide and low concentrations of white ammoniated mercury) with impunity but suddenly some person shows the most devastating explosive reaction Fanconi and associates[6] in 1947 reported 56 cases of hypersensitivity reactions to mercury preparations 39 of which were classified as cases of "calomel' disease (resulting from mild mercurous chloride and santonin used as a vermifuge) and 17 of which were cases of reaction to the external application of mercury *Three of these resembled* cases of 'calomel" disease

In view of Fanconi s complete description of this disease with its rare late complications, such as acrodynia, and the reports of Bivings and Lewis[7] and Elmore,[9] we emphasize the fact that the symptoms in our case were the cardinal symptoms of 'calomel' disease, which are (1) exanthema (2) fever (3) generalized glandular swelling with or without splenic tumor and (4) eosinophilia Warkany and Hubbard[10] have led the way toward a definitive diagnosis of mercurial intoxication from whatever source by means of their technic of mercury determination in the urine

Randall and Seeler[11] have recently published a report on BAL, its history structure, action and uses Woody and Kometani[12] have demonstrated its safety in a wide dosage range under circumstances requiring emergency treatment

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7 Bivings, L and Lewis G Acrodynia A New Treatment with BAL J Pediat. **32** 63 (Jan.) 1948

8 Warkany J Personal communication to the author

9 Elmore S E Ingestion of Mercury as a Probable Cause of Acrodynia and Its Treatment with Dimercaprol (BAL) Report of Two Cases Pediatrics **1** 643 (May) 1948

10 Warkany J and Hubbard, D M Mercury in the Urine of Children Lancet **254** 829 (May 29) 1948

11 Randall R V and Seeler A O BAL New England J Med **239** 1004 (Dec. 23) and 1040 (Dec. 30) 1948

12 Woody N and Kometani J BAL in the Treatment of Arsenic Ingestion of Children Pediatrics **1** 372 (March) 1948

Russell and co-workers[13] have stated that, in the absence of metallic intoxication, BAL may interfere with magnesium and perhaps calcium metabolism, but this may be ignored if the patient is provided with a high calcium diet, magnesium sulfate and vitamin D

SUMMARY AND CONCLUSION

A 3 year old girl who exhibited severe idiosyncrasy to ammoniated mercury was treated with 2,3-dimercaptopropanol (BAL) and experienced prompt alleviation of toxic symptoms Because of this experience it is our opinion that BAL is indicated in the instance of a critically ill patient with a presumptive diagnosis of idiosyncrasy to mercury However, urine should be obtained for mercury analysis in order to establish a definitive diagnosis

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Council on Foods and Nutrition

This paper was prepared at the request of the Council and is one of a series appearing in THE JOURNAL. *Later the entire series will appear in book form as the Council's Handbook of Nutrition*

JAMES R WILSON, M D, *Secretary*

IRON AND COPPER

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Several recent well documented reviews of iron metabolism are available for those who may be interested in detailed discussions of the subject Especially to be recommended to the physician are the classical review of Heath and Patek[1] and the discussions by Moore[2] and by Cartwright[3] Accordingly, this paper will deal specifically with some aspects of iron metabolism which relate directly to an understanding of the clinical syndrome of iron deficiency as encountered in man and its prevention and treatment This paper is intended to supplement not to supersede, the excellent discussion of iron in nutrition contained in the first edition of the "Handbook of Nutrition"[4]

The importance of iron deficiency may be illustrated by noting that in the Vanderbilt University Hospital clinics it is the most frequently encountered clinically manifest deficiency disease It is most often seen in women during the childbearing period and the menopause and in children from 6 months to 2 years of age The explanation of this distribution will be apparent in the discussion which follows When encountered in adults the disease is rarely if ever, of dietary origin and must be regarded as evidence of abnormal blood loss

METABOLISM OF IRON

The earlier knowledge of iron metabolism was based on studies which employed the usual metabolic balance technic The past decade has seen the development and widespread application of investigations using radioactive or labeled iron The principle of this latter type of investigation is simple the investigator administers the desired quantity (usually quite small and within the physiologic range) of iron which is tagged by the presence in the sample of varying amounts of one of the radioactive isotopes of iron[5] Subsequently, at intervals blood, excreta or tissues are sampled and ashed, and determinations are made of the radioactivity of the iron contained in these substances[6] One may thereby determine the location of atoms of iron which were administered at the determined time Up to the instant of decay, radioactive isotopes are physiologically indistinguishable from the ordinary nonradioactive variety Hence, one may assume that the fate of the radioactive atom is indicative of the fate of all the atoms of iron in the administered sample Accordingly, a judicious use of quantitative determinations of total iron and radioactivity in such studies permits one to obtain valuable knowledge of the course of iron in metabolism

Iron exists in foodstuffs in a variety of forms, certain of which are but slightly absorbed In some instances the poor absorbability of iron is due to the presence of the metal in a sparingly soluble compound or in an organic form from which the iron is poorly liberated In other instances, the differences in the absorbability of iron, at least in pharmaceutic preparations, are based on differences in valence states of the metal

It has been held that the availability of iron from a foodstuff could be ascertained by a determination of the amount of iron in the substance which reacted with α,α-dipyridyl Iron so determined in foodstuffs has often been termed "available iron" There is evidence that some correlation may exist between iron which reacts in this manner and the availability of such iron to rats for hemoglobin synthesis,[7] but similar studies of the relationship in man are lacking Availability studies of iron compounds carried out on other species, such as rats or dogs, should not serve as more than a tentative basis for conclusions regarding the availability or absorbability of iron by man This statement is based on the findings of Moore and his co-workers[8] and Hahn and his collaborators,[9] both of whom employed radioactive iron in a study of the relative absorbability by man of ferrous and ferric iron Both groups of investigators found that ferrous iron was absorbed much more readily by man than was ferric iron These results were in distinct contrast to similar studies in the dog, which proved that ferric iron is absorbed by this species equally as well as ferrous iron Obviously, therefore conclusions based on observations on lower animals are not necessarily valid for man Investigations of the absorbability or availability of iron products must be verified by studies in man before they serve as a basis for decisions on policies concerning enrichment of foodstuffs with iron The evidence indicates that iron absorption in the rat and dog is similar This evidence demonstrates the fallacy inherent in the interpretation of existing evidence for the availability of several iron-containing products which may be used in bread enrichment[10] The use of the dog[11] as an experimental animal for studies on iron availability obviously does not circumvent this fallacy if the data are to be applied to man

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[13] Russell B, Green B and Wand L G R Latent Tetany Caused by BAL Lancet **255** 169 (July 31) 1948

From the Division of Nutrition of the Departments of Medicine and Biochemistry Vanderbilt University School of Medicine Nashville

[1] Heath, C W and Patek, A J Jr The Anemia of Iron Deficiency Medicine **16** 267 (Sept) 1937

[2] Moore C V Iron Metabolism and Hypochromic Anemia, Symposia on Nutrition I Nutritional Anemia, Cincinnati, The Robert Gould Research Foundation, Inc, *1947 p 117*

[3] Cartwright G E Dietary Factors Concerned in Erythropoiesis, Blood **2** 111 (March), 256 (May) 1947

[4] Heath C W Iron in Nutrition Handbook of Nutrition Chicago, American Medical Association *1943 p 115*

[5] Two radioactive isotopes of iron have been employed Fe^{59} with a half life of forty seven days, and Fe^{55} with a *half life of five years* (For a discussion of these technics see footnotes 6 and 8 and Hevesey G Radioactive Indicators Their Application in Biochemistry, Animal Physiology and Pathology Interscience Publishers, Inc New York 1948, p 556)

[6] (*a*) Hahn, P Radioactive Iron Procedures Indust & Engin Chem **17** 45 (Jan) 1945 Balfour, W M Hahn, P F Bale W F Pommerenke W T and Whipple G H Radioactive Iron Absorption in Clinical Conditions Normal Pregnancy Anemia and Hemochromatosis J Exper Med **76** 15 (July) *1942 (b) Dubach,* R, Moore, C V and Minnich V Studies in Iron Transportation and Metabolism J Lab & Clin Med **31** 1201 (Nov) 1946

[7] Chatfield C and Adams G Food Composition, in 'Food and Life, Yearbook of Agriculture Washington D C United States Department of Agriculture 1939 p 272

[8] Moore C V, Dubach, R, Minnich, V, and Roberts H K Absorption *of* Ferrous *and* Ferric Radioactive Iron by Human Subjects and by Dogs, J Clin Investigation **23** 755 (Sept) 1944

[9] Hahn P F Jones, E, Lowe R C *Meneely* G R and Peacock W The Relative Absorption and Utilization of Ferrous and Ferric Iron in Anemia as Determined with *the Radioactive* Isotope Am *J Physiol* **143** 191 (Feb) 1945

Simultaneously ingested food may decrease iron absorption in man[12] an effect which may be attributable in part to the effect of bulk[12] It is reported that certain types of diets may increase the absorption of iron[13] in the rat—an effect which calls to mind the occurrence of ferremia and hemosiderosis in pyridoxine-deficient animals[14]

The absorption of iron from the gastrointestinal tract is normally a controlled process[15] In the healthy nondeficient adult only a small portion of ingested food-iron will be absorbed each day In an iron-deficient person the absorptive process is much more efficient and a high percentage of the ingested iron may be taken up Studies of iron absorption in growing children indicate that the efficiency of the absorption process parallels the need for the element[16] Similarly during the latter half of pregnancy the absorptive efficiency is greatly increased,[17] this being the period during which the fetal iron stores are built up

As indicated, ferrous iron is more efficiently absorbed than ferric iron The implication of this observation in therapy is obvious It seems probable that all iron which is absorbed must first be reduced to the ferrous state[17a] Accordingly the presence of conditions in the gastrointestinal tract conducive to reducing iron to this state is of importance Ascorbic acid reduces ferric iron and there is evidence that it may serve this role under physiologic conditions

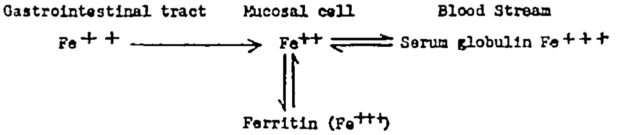

Fig 1 —Granick's scheme[18] indicating a role of ferritin in absorption of iron

The control of iron absorption by the intestinal mucosa may be mediated through the iron-containing protein "ferritin" This protein may incorporate up to 23 per cent of iron which it may readily release The iron-free protein is called "apoferritin" Ferritin is known to serve as a repository for iron in the body, and Granick[18] has pictured its role in iron absorption as illustrated by figure 1 This does not appear to be a final picture of the actual mechanism of iron absorption but serves to emphasize the controlled nature of the process and a probable role of ferritin in it

Absorbed iron is transported in the plasma in the ferric state as one of the globulin fractions[19] The quantitative determination of serum iron is of such value that it warrants more widespread use in this country A recently described microprocedure[20] should extend the range of usefulness of the measure The normal range of values for serum iron is usually stated to be 80 to 180 micrograms per hundred milliliters Low values are encountered in the hypochromic microcytic anemia of iron deficiency and in the anemia of infection Higher than normal values are met in pernicious anemia and, possibly, in the other macrocytic anemias although the evidence on some of these latter is insufficient to permit a categorical statement

Table 1—*Iron Requirements for Growth (Males)**

Year of Life	Total Annual Requirement of Iron (Gm)
1	0.195
2	0.11[illegible]
3	0.080
4	0.092
5	0.068
6	0.070
7	0.080
8	0.070
9	0.072
10	0.152
11	0.130
12	0.157
13	0.180
14	0.196
15	0.314
16	0.31[illegible]
17	0.2[illegible]
18	0.18[illegible]
19	0.140
20	0.081
21	0.0[illegible]1
22	0
23	0
Total requirement birth to 21 years	3.148

* From Heath and Patek[1]

Iron which is given intravenously disappears from the plasma until a level of between 300 and 400 micrograms per hundred milliliters is established The measure of the concentration of iron which can be retained by the plasma under such circumstances is spoken of as the iron-binding capacity of the serum Cartwright[21] has shown that the hypoferremia of chronic infections is accompanied by a decrease in the iron-binding capacity of the serum and that this latter may be increased by administration of a globulin fraction

Iron is stored in the tissues most likely in a number of compounds The storage iron appears to exist in two parts (1) a readily available "labile iron pool"[22] which is made up of recently absorbed iron plus that recently released during the breakdown of hemoglobin and (2) a more fixed, less readily available, tissue iron. The chief sites of storage iron are liver, spleen, bone marrow and kidneys.

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[16] Darby W J Hahn P F Kaser M M Steinkamp R C Densen P M and Cook M B The Absorption of Radioactive Iron by Children Seven to Ten Years of Age J Nutrition **33** 107 (Jan) 1947

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[20] Burch H B Lowry O H Bessey O A and Berson B Z The Determination of Iron in Small Volumes of Blood Serum J Biol Chem **174** 791 (July) 1948

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[22] Greenberg G R and Wintrobe M M A Labile Iron Pool J Biol Chem **165** 397 (Sept.) 1946

In addition to storage iron, the tissues contain so-called "parenchymal iron," which is the relatively fixed iron present in muscle and other tissues and not contained in muscle hemoglobin. Parenchymal iron is held in the iron-containing enzymes such as cytochrome catalase, peroxidase and related compounds. Parenchymal iron and muscle hemoglobin have been termed by Hahn[23] as "inviolate stores of iron which are not drawn on no matter how great the emergency due to anemia."

The body has a minimal capacity for losing iron except through blood loss.[17] Practically no iron is excreted in the urine, and the excretory iron in the feces comprises less than 1.0 mg. per day.[24] Moore[25] has failed to confirm the claim of Mitchell and Hamilton[26] that a large loss of iron occurs through the perspiration.

TABLE 2.—*Iron Requirements for Growth, Menstruation and Pregnancy* *

Year of Life	Total Annual Requirement of Iron (Gm.)
1	0.182
2	0.112
3	0.092
4	0.080
5	0.087
6	0.106
7	0.078
8	0.067
9	0.108
10	0.120
11	0.163
12	0.164
13	0.192
14	0.145
15	0.468
16	0.424
17	0.498
18	0.435
19	0.452
20	0.365
21	0.358
22	0.295
23	0.295
24	0.298
25	0.374 †
26	0.208
Total requirement, birth to 47 years	12.222

* From Heath and Patek.[1]
† Calculated for pregnancy.

REQUIREMENTS FOR IRON

The calculations of iron requirements which were made by Heath and Patek[1] are probably as valid as any which could be made today. These estimates, which are summarized in tables 1 and 2, indicate that the times of the greatest requirement for iron, both relatively and absolutely, are during the first two years of life and the rapid growth of adolescence and, in women, throughout the childbearing period. After growth ceases in the man the requirement for iron falls to an exceedingly low level. For women the requirement remains higher because of the loss of iron in menstrual blood and the process of reproduction. After the menopause the requirement drops. These requirements were calculated from estimates of the iron needed to build body tissue and to replace body losses. They are not estimates of dietary requirements. The Food and Nutrition Board of the National Research Council has given estimates of allowances of iron in the diet in order to provide an abundantly adequate supply of dietary iron. The figures from the 1948 revision are reproduced in table 3. Somewhere between these two estimates probably lies the true minimal dietary requirement of the metal.

I feel that it will remain futile to attempt to set a single figure as the requirement for iron in the diet. The physiologic availability of iron varies from foodstuff to foodstuff and is dependent on the composition of the remainder of the diet. For all nutrients there exist important physiologic variations in requirements from person to person. Accordingly, any single figure for requirements must remain a mere approximation.

At this point, it may be well to consider terminology concerning physiologic availability of iron. It has been pointed out that the term "available iron" has been used in connection with a chemical procedure which does not necessarily measure the iron which can be absorbed and utilized by man. It appears to be mandatory that iron is in the ferrous state at the moment of absorption by man. Therefore, all the iron which is absorbed from the human intestine would seem to enter the body with the same potentialities for utilization, regardless of the original form of the iron. Accordingly, it appears to me that the use of the term "absorbable iron" in foodstuffs would be a more precise and useful term than 'utilizable or available iron."

The total iron content, expressed in milligrams per hundred grams, of the edible portion of some representative foods are listed in table 4. The values given in this table permit the following generalizations. Relatively rich sources of iron are organ meats (heart and liver), egg yolk, dried legumes, oatmeal and cane molasses. Poor sources of iron include milk and milk products, fats and oils, fruits and root vegetables, unenriched white flour, granulated sugar and degerminated cornmeal. Foods of intermediate iron content include muscle meats, fish, poultry, nuts, green and green leafy vegetables, enriched flour and whole grain meal.

TABLE 3.—*Recommended Daily Dietary Allowances*

	Iron (Mg.)
Man (154 lb., 70 Kg.)	
Sedentary	12 *
Physically active	12 *
With heavy work	12 *
Woman (123 lb., 56 Kg.)	
Sedentary	12
Moderately active	12
Very active	12
Pregnancy (latter half)	15
Lactation	15
Children up to 12 years	
Under 1	6
1-3 (27 lb., 12 Kg.)	7
4-6 (42 lb., 19 Kg.)	8
7-9 (58 lb., 26 Kg.)	10
10-12 (78 lb., 35 Kg.)	12
Children over 12 years	
Girls, 13-15 (108 lb., 49 Kg.)	15
16-20 (122 lb., 54 Kg.)	15
Boys, 13-15 (108 lb., 49 Kg.)	15
16-20 (141 lb., 64 Kg.)	15

* There is evidence that the male adult needs relatively little iron. The need will usually be provided for if the diet is satisfactory in other respects.

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23. Hahn, P. F.: The Metabolism of Iron, Medicine **16**: 249 (Sept.) 1937.

24. Moore, C. V.: Estimated from data of Dubach, Moore and Minnich[6b] on Excretion of Intravenously Injected Iron in Patients with Hemolytic Anemia.

25. Moore, C. V.: Iron Metabolism and Hypochromic Anemia, paper presented at Symposium: Currents in Nutrition, University of Illinois College of Medicine, Chicago, November 19, 1949.

26. Mitchell, H. H., and Hamilton, T. S.: The Dermal Excretion under Controlled Environmental Conditions of Nitrogen and Minerals in Human Subjects, with Particular Reference to Calcium and Iron, J. Biol. Chem. **178**: 345 (March) 1949.

IRON DEFICIENCY

The pathogenesis of iron deficiency is usually predictable from the age of the person In the infant iron deficiency is most often of dietary origin In the adult the deficiency is conditioned by chronic blood loss

Table 4—*Iron Content of Selected Foods**

Food Item	Iron (Mg / 100 Gm) †
Milk	
Evaporated unsweetened	17
Fresh whole	07
Ice cream plain	10
Cheese Cheddar type	.7
Bacon medium fat	.3
Butter	.2
Lard other shortening	0
Egg yolk fresh	7.2
Eggs whole fresh	2 7
Beef	
Roasting meat	2.8
Round steak (wholesale round)	2 9
Pork Ham smoked	2.5
Variety meats meat mixtures	
Heart fresh	6.2
Liver fresh	19 1
Poultry chicken roasters	1 9
Fish miscellaneous medium fat	1 0
Dry Beans and Peas Nuts	
Cowpeas	7.8
Peanuts roasted	1 9
Vegetables Fresh	
Beans lima green	2.3
Beets	1 0
Broccoli	1.3
Carrots	.8
Kale	2.2
Lettuce headed	.5
Mustard greens	2.9
Potatoes	7
Spinach	3 0
Turnip greens	2 4
Turnips	5
Fruit Fresh	
Apples	.3
Apricots	.5
Cantaloupe	4
Grapefruit	.3
Oranges	4
Corn meal	
White degerminated	1 0
White whole grain	2 7
Flour	
Wheat patent	7
Wheat patent enriched	2 9
Whole wheat	3.8
Bread	
White enriched	1.8
Whole wheat	2.2
Cereals	
Oatmeal	,2
Rice flakes puffed rice	.9
Sugars Sweets	
Honey	9
Molasses cane	6.7
Sugar brown	2 6
Sugar granulated or powdered	1
Yeast dried brewer's	18.2

* From the United States Department of Agriculture Miscellaneous Publication No 572. † Edible portion

The fetal stores of iron are deposited during the last trimester of pregnancy Although the interpretation has been questioned, there is considerable evidence to indicate that fetal stores of iron at birth may be considerably influenced by the nutrition of the mother relative to iron during pregnancy[27] Thus, Strauss[28] found that infants born to mothers who were anemic during pregnancy had a high incidence of iron deficiency anemia during the first year of life The iron stores of premature infants are less than those of full term infants At birth a considerable amount of iron is contained in the infant's body because of the plethora of red cells and hemoglobin Normally, the iron available from the breakdown of the excessive hemoglobin and from normal stores will be sufficient to carry the infant through the first few months of life on the low iron intake provided by milk From approximately 6 months of age on, however, the body stores of iron may be insufficient to meet the demands of the growing infant and unless an intake of iron other than that contained in milk is provided, the hypochromic microcytic anemia of iron deficiency may appear This manifestation of iron deficiency is most frequently encountered in children from 6 months to 2½ years of age who have received a diet based on cow's milk formula From table 4 it is apparent that the provision of orange juice as an antiscorbutic and vitamins A and D in a fish oil would not suffice to protect the infant against the development of iron deficiency This illustrates the desirability of a variety of foods in the infant's diet

The clinical evidence indicates that by the time adulthood is reached even the poorest dietary regimens which are likely to be encountered in this country are sufficient to prevent iron deficiency in the absence of chronic blood loss Iron deficiency does not often occur as a result of a single massive hemorrhage Instead, it results from repeated losses of blood The most common sources of these losses are menorrhagia, functional or due to fibroids, bleeding peptic ulcers hemorrhoids, menopausal menorrhagia abortion miscarriage or bleeding after delivery, parasitic infestation, especially with hookworm, and blood loss secondary to malignant changes either of the gastrointestinal tract, nasopharynx or genitourinary tract Less frequently one finds that the fault lies in chronic pulmonary hemorrhage, renal hemorrhage (tuberculosis or hypernephroma) and blood losses from ulcerative colitis, rectal polyps or even diaphragmatic hernia

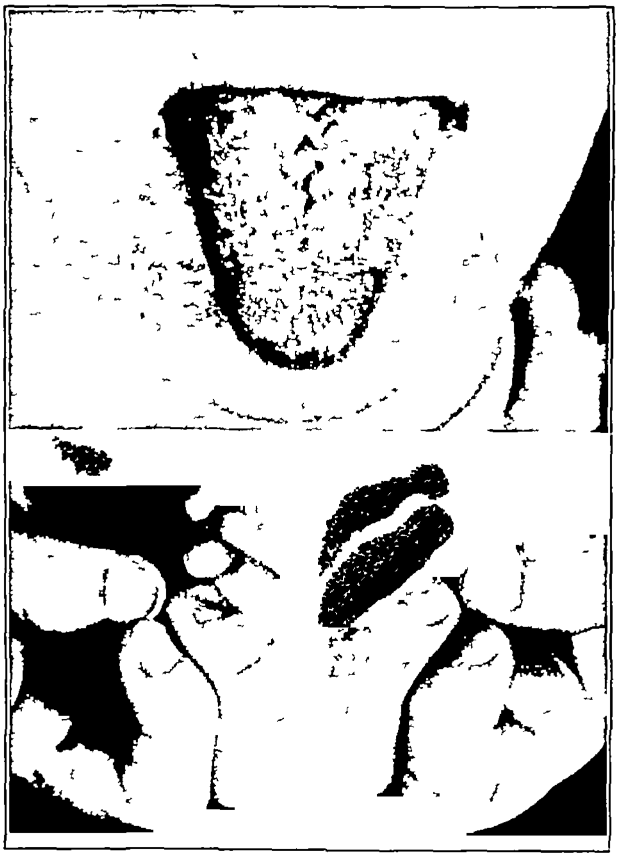

Fig 2 —Glossitis angular stomatitis and koilonychia encountered in a patient with hypochromic microcytic anemia due to menorrhagia These lesions as well as the anemia responded to therapy with ferrous sulfate alone

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27 Guest, G M Hypoferric Anemia in Infancy Symposia on Nutrition I Nutritional Anemia, Cincinnati The Robert Gould Research Foundation Inc. 1947 p 144

28 Strauss M B Anemia of Infancy from Maternal Iron Deficiency in Pregnancy J Clin Investigation 12 345 (March) 1933

Peculiarly enough, the pathology of iron deficiency has not been described in detail [29] The iron-deficient person usually is rather nervous, easily fatigued and listless, palpitation on exertion, a sore tongue, angular stomatitis and dysphagia may be present A hypochromic microcytic anemia is invariably seen When all these conditions are present the syndrome is referred to as the Plummer-Vinson syndrome Koilonychia may also be seen Any combination of these conditions may be encountered [30] Signs other than the anemia are not usually encountered in children The oral lesions and nail changes are illustrated in figure 2 The oral lesions occur in one degree or another in about 10 per cent of iron-deficient adults, in my experience Koilonychia is less frequently met

The anemia of iron deficiency is hypochromic microcytic anemia and is accompanied by normoblastic hyperplasia of the bone marrow Plasma iron levels are low in this type of anemia, and iron absorption curves do not show a rise after an oral test dose Iron absorption, however, is increased as one can demonstrate by use of the radioactive iron technic

A discussion of anemia such as this raises the question of when a person or a population should be considered anemic The usual arbitrary figures for "normal" hemoglobin and red blood cell values give no indication of the variability to be expected in a healthy population Several modern studies of hemoglobin levels in population groups other than hospital groups indicate something of this variability Figure 3, for example, illustrates the variation in average hemoglobin levels which were encountered in different physiologic groups within populations in Great Britain [31] Table 5 indicates the variability in hemoglobin levels observed in a study of 3,029 persons in North Carolina [32] Like variations have been observed in other similar studies It is to be noted that the lower limits of the nineteen-twentieths of the distributions in the North Carolina studies are approximately 11 Gm for children under 12 years of age, approximately 11 5 Gm for white women and approximately 12 Gm for white men In each case, the values for the Negro groups are from 0 2 to 0 5 Gm less These lower limits represent a useful statistical division for those values likely to be associated with abnormality It is recognized that such average hemoglobin values do not necessarily indicate the level conducive to the best health Nevertheless, such observations among a non-ill population do caution against the designation of a large group of the population as anemic or iron-deficient [33] merely because they fall below some arbitrary hemoglobin levels, especially in view of the clinical evidence that many of these persons cannot have their hemoglobin levels increased by the administration of iron [34]

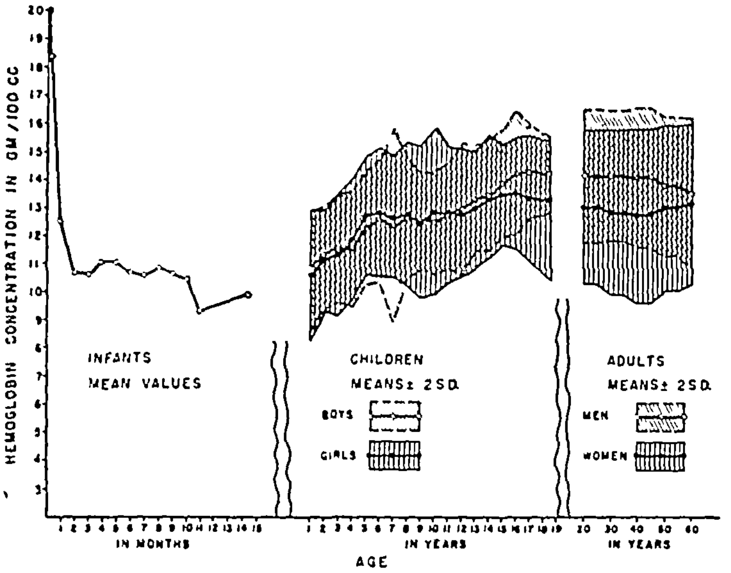

Fig 3—The variations in average hemoglobin concentrations throughout the life span are shown This chart of mean hemoglobin concentration in grams per hundred cubic centimeters at various ages was constructed by accepting the value of 13 8 Gm per hundred cubic centimeters as 100 per cent (Haldane) The limits of plus or minus 2 standard deviations are such that one may expect them to include approximately 95 per cent of the values encountered in healthy persons Of particular interest are (1) the wide swings in hemoglobin level which occur between birth and adulthood (2) the separation of means for boys and girls at puberty with the subsequent decrease in the sex differences after 40 years of age and (3) the greater variation in values for women than for men—a phenomenon more apparent at the menopause (Constructed from data of the Medical Research Council Special Report Series no 252 [31])

TABLE 5 —*Distribution Constants of Hemoglobin Levels for White and Negro Populations (North Carolina)*[32]

	White, Hemoglobin (Gm /100 Cc)	Negro Hemoglobin (Gm /100 Cc)
Mean		
Under 12		
Boys	12 07 ± 0 046	11 89 ± 0 078
Girls	12.04 ± 0 040	12 13 ± 0 062
12 and over		
Men	14.26 ± 0 040	13 76 ± 0 066
Women	12.87 ± 0 045	12 16 ± 0 087
Women (fitted curve)	13 08	12 64
Limits of nineteen twentieths of distribution		
Under 12		
Boys	10 97 — 14.37	9 77 — 14 01
Girls	10.95 — 14 17	10 47 — 13 79
12 and over		
Men	11.88 — 16 62	11 31 — 16 21
Women	10 41 — 15 33	9.36 — 14 96
Women (fitted curve)	11.30 — 14 88	11 04 — 14 24

The finding of a low hemoglobin level is not alone sufficient for the diagnosis of iron deficiency anemia whether in a particular person or a population group Unfortunately, estimates of the prevalence of iron deficiency have sometimes been based on this single criterion [33] The simultaneous determination of hemoglobin concentration, red blood cell counts (RBC) and of packed cell volume (PCV) permits the calculation of exceedingly useful volume and concentration indexes These indexes are as follows

$$\begin{array}{c}\text{Mean corpuscular volume}\\ \text{(MCV) in cubic microns}\end{array} = \frac{\text{Volume of packed red cells (PCV), cc per 100 cc} \times 10}{\text{Red cell count (RBC), million per cu mm}}$$

$$\begin{array}{c}\text{Mean corpuscular hemoglobin}\\ \text{(MCH) in micromicrograms}\end{array} = \frac{\text{Hemoglobin, Gm per 100 cc} \times 10}{\text{Red cell count (RBC), million per cu mm}}$$

$$\begin{array}{c}\text{Mean corpuscular hemoglobin concentration}\\ \text{(MCHC) in per cent}\end{array} = \frac{\text{Hemoglobin, Gm per 100 cc} \times 100}{\text{Volume packed red cells (PCV), cc per 100 cc}}$$

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[29] Follis R H Jr The Pathology of Nutritional Disease, Springfield Ill Charles C Thomas Publisher 1948

[30] Heath and Patek[1] Darby, W J The Oral Manifestations of Iron Deficiency J A M A **130** 830 (March 30) 1946 Waldenström J Iron and Epithelium Some Clinical Observations Acta med Scandinav 1938 supp 90, p 380

[31] Haemoglobin Levels in Great Britain in 1943 (with Observations upon Serum Protein Levels), Committee on Haemoglobin Surveys Medical Research Council Special Report Series no 252, London, His Majesty's Stationery Office 1945

[32] Milam D F, and Muench H Hemoglobin Levels in Specific Race, Age and Sex Groups of a Normal North Carolina Population J Lab & Clin Med **31** 878 (Aug) 1946

[33] Committee on Diagnosis and Pathology of Nutritional Deficiencies Food and Nutrition Board Inadequate Diets and Nutritional Deficiencies in the United States Their Prevalence and Significance, New York Bulletin of the National Research Council no 109, 1943

[34] Fowler W M and Barer A P Some Effects of Iron on Hemoglobin Formation Am J M Sc **201** 642 (May) 1941

The usefulness of these indexes in the classification of anemias is indicated by table 6, which has been adopted from the report by Wintrobe[35]

In addition to these specific characteristics of iron deficiency anemia, one may encounter the several manifestations of the anemic state In particular one may observe cardiac abnormalities[36] such as hemic murmurs cardiac enlargement, symptoms of angina pectoris palpitation and even electrocardiographic changes Dyspnea and edema are not infrequently observed

The anemia of iron deficiency is most likely to be confused with anemias of infection, hemolytic anemias and, occasionally, myelophthisic anemias In animals there are other types of microcytic anemia such as that due to pyridoxine deficiency or to cobalt deficiency The analogues of these however, have not been identified in man

PREVENTION AND THERAPY OF IRON DEFICIENCY

The prevention of iron deficiency anemias in infants consists of proper attention to the nutritional state of the mother during pregnancy and the early introduction of a variety of foodstuffs in the diet of the baby It might be noted that breast milk is slightly richer in iron than cow's milk and, accordingly breast feeding of the infant may be of aid in the prevention of the development of iron deficiency Once iron deficiency has developed therapy with a suitable preparation of a ferrous salt, plus correction of the diet should result in a rapid recovery

The prevention of iron deficiency in the adult resides in the early recognition and correction of sources of chronic blood loss and in addition that which may be called "preventive therapy" or supplementation for those persons with conditions previously enumerated which impose the stress of excessive loss of iron in blood or during the latter part of pregnancy It is logical to reason that increasing the dietary intake of iron above the present level can be expected to have little influence on the prevalence of iron deficiency within the adult population

The treatment of iron deficiency in the adult consists of detection of the source of blood loss and correction of the defect and the oral administration of a readily absorbed preparation of iron preferably ferrous sulfate The simple preparations of ferrous sulfate are equally as effective as any combination of iron with yeast liver folic acid or other minerals Iron is effective only in the treatment of iron deficiency anemia It has no value in the treatment of the anemia of infection of pernicious anemia, sprue or other types of anemia unless they are accompanied by an associated iron deficiency Specific therapy is followed by moderate reticulocytosis and a gradual rise of hemoglobin level at a rate of 0 1 to 0 2 Gm per hundred milliliters per day The cell volume increases and the hematologic picture returns to normal Figure 4 illustrates the response of a patient treated with 0 3 Gm of ferrous sulfate daily

In view of the considerations which have been reviewed, it is not possible to evaluate the benefits of including iron in the enrichment of flour and bread As a matter of fact, the evidence is unconvincing that certain of the iron preparations which have been used in enrichment mixtures actually result in an increase in the amount of absorbable iron in the diet The importance of the problem of iron deficiency is such that a solid appraisal of the program based on human physiology is needed

TABLE 6—*Classification of Principal Anemias (Modified after Wintrobe[35])*

Anemias	MCV (Cu. μ)	MCHC (%)		Syndrome	Characterized by	Responds to
Hypochromic microcytic	< 80	< 30	A	Iron deficiency anemias of all sorts—including dietary deficiency excessive blood loss hookworm infestation and repeated pregnancies	Low serum iron normoblastic *marrow*	Iron and correction of blood loss
Simple microcytic	< 80	> 30		Subacute and chronic inflammatory diseases	Low serum iron hypercupremia	Treatment of cause
Normocytic	80-94	> 30	A	Myelophthisic and aplastic anemias chronic disease		Transfusion and treatment of cause
			B	Physiologic anemia (hydremia) of pregnancy		
Macrocytic	> 94	> 30	A	Pernicious anemia Sprue Pernicious anemia of pregnancy Macrocytic anemia of celiac disease Nutritional macrocytic anemia Tropical macrocytic anemia Macrocytic anemia associated with conditions such as carcinoma of stomach and liver disease	*Megaloblastic* marrow high or normal serum iron	Liver extract folic acid vitamin B_{12} or animal protein factor
			B	Conditions usually associated with normocytic anemia		Transfusions and treatment of causes

TOXICITY OF IRON

There exists an exceedingly wide range of safety between the therapeutic and toxic doses of orally administered iron While even ordinary therapeutic doses of soluble iron preparations may produce some gastrointestinal symptoms these are seldom of much importance Massive overdosage of iron, however, may produce serious, even fatal consequences Thus the ingestion by children of amounts of ferrous sulfate of 6 0 to 10 0 Gm has produced death with acute hemorrhagic gastritis and liver damage[37] Ingestion by a 2 year old child of 2 0 Gm of ferrous sulfate resulted in a severe, but not fatal gastritis Obviously therapeutic iron preparations should be kept out of the reach of small children From a pharmacologic study of iron preparations, Somers[38] has estimated the lethal dose for an adult as at least several hundred 0 2 Gm tablets of ferrous sulfate

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[35] Wintrobe M M Anemia Classification and Treatment on the Basis of Differences in the Average Volume and Hemoglobin Content of the Red Corpuscles Arch Int. Med 54 256 (Aug) 1934

[36] (a) Hunter A The Heart in Anaemia Quart J Med. 15 107 (April) 1946 (b) Wintrobe M M The Cardiovascular System in Anemia Blood 1 121 (March) 1946

[37] Forbes G Poisoning with a Preparation of Iron Copper and Manganese Brit M J 1 67 (March 22) 1947

The parenteral administration of even small amounts of iron (colloidal ferric oxide or colloidal ferric hydroxide) has been termed[39] "impractical, dangerous, and unnecessary as a therapeutic measure" It is followed by a febrile reaction, shock and thrombosis of the receiving vein The toxic symptoms have been described in detail by Goetsch, Moore and Minnich[39] Nissim,[40] however, has reported on a preparation of "saccharated iron" which it seems may be administered to patients intravenously in quantities supplying up to 500 mg of elemental iron without these toxic reactions developing Further development of such preparations may offer feasible parenteral therapy for limited use

COPPER

Any attempt to arrive at a conclusive statement regarding the occurrence of copper deficiency in man or the human requirements of copper would be most premature and would, therefore, be controversial Most of the clinical studies[41] on man which purport to produce evidence of copper deficiency are open to definite criticism Rigidly designed studies on man in this area are badly needed

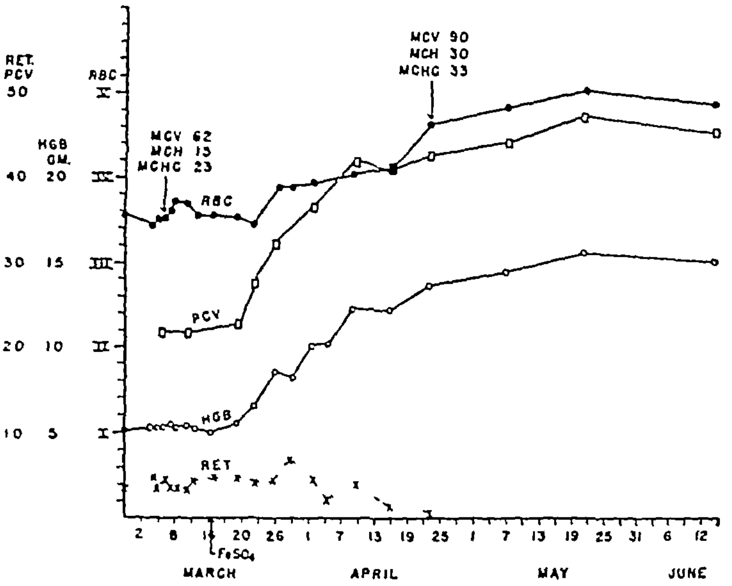

Fig 4—Response of a patient with iron deficiency (microcytic hypochromic anemia) to ferrous sulfate administered in oral doses of 0 3 Gm daily beginning on the date indicated by the arrow

Certain facts relative to the nutritional role of copper seem indisputable Copper is an essential nutrient for rats and for several other experimental animals A deficiency of the element is manifest by a hypochromic, usually microcytic, anemia and general debility as well as depigmentation There occurs a decrease in the activities of oxidative enzymes (cytochrome, cytochrome oxidase and catalase) in the tissues of deficient rats Herbivora are particularly susceptible to this deficiency and it may occur under practical feeding conditions, especially if a pasture area low in copper has been treated with molybdenum[42] The anemia of copper deficiency is a reflection of the inability to mobilize iron for hemoglobin production

The human diet ordinarily contains 2 to 4 mg of copper per day The metal may be absorbed from the gastrointestinal tract with retention of some 5 to 40 per cent of the intake Balance studies on man reveal that a daily intake of approximately 2 0 mg will maintain adults in balance Such evidence, however, should not be construed as defining a requirement The copper content of whole blood is approximately equally divided between cells and plasma and usually lies between 90 and 150 micrograms per hundred milliliters for men and 100 and 160 micrograms for women Similar levels are obtained for serum copper—thus, Nielsen[43] reports 110 plus or minus 12 micrograms per hundred milliliters for healthy men and 123 plus or minus 16 micrograms for healthy women He noted appreciable diurnal variations in the serum copper values During the latter half of pregnancy there is a definite rise in the copper content of the serum, a rise which disappears within one to two months after delivery Serum copper values are low (by adult standards) in the newborn Van Ravesteyn[44] found that giving copper by mouth did not appreciably increase the serum level or the urinary content of the element This latter varied from 0 to 12 5 micrograms per hundred milliliters The administration of copper intravenously resulted in a transitory rise in serum and urinary content, but both returned to pretreatment levels within a few hours Biliary and fecal content of copper rose sharply after administration of copper by either oral or intravenous routes It is apparent that copper is excreted by man in the bile, and there is a possibility that it is excreted in part by the intestinal wall

Milk is extremely low in copper content The successful production of copper deficiency in rats fed a milk diet has led to the repeated suggestions that infants restricted to milk alone may reveal signs of copper deficiency and that copper is a logical adjunct to iron for therapy of hypochromic microcytic anemia of infants While the evidence indicates that some hemopoietic effect of copper may have been observed in an occasional anemic infant, there is need for a definitive study of this claim The point is one which has more practical bearing on the prevention of this anemia than on its treatment, for most infants with hypochromic microcytic anemia respond satisfactorily to the iron preparations in common use

In the adult, hypochromic microcytic anemia is due to blood loss, hence it would not be expected that copper deficiency would be encountered The investigations of the hemopoietic effect of copper leave me unconvinced that copper deficiency has been encountered in the adult

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[38] Somers G F Relative Oral Toxicity of Some Therapeutic Iron Preparations Brit M J **2** 201 (Aug 9) 1947

[39] Goetsch A T, Moore C V, and Minnich V Observations on the Effect of Massive Doses of Iron Given Intravenously to Patients with Hypochromic Anemia, Blood **1** 129 (March) 1946 Heath C W, Strauss M B, and Castle W B Quantitative Aspects of Iron Deficiency in Hypochromic Anemia J Clin Investigation **11** 1293 (Nov) 1932

[40] Nissim J A Intravenous Administration of Iron Lancet **2** 49 (July 12) 1947

[41] The literature on copper metabolism and deficiency is well summarized in the following reviews Schultze M O Metallic Elements and Blood Formation, Physiol Rev **20** 37 (Jan) 1940 Schultze, M O Some Biochemical Aspects of Metabolism of Iron and Copper, Symposia on Nutrition I Nutritional Anemia Cincinnati, The Robert Gould Research Foundation Inc, 1947, p 99 Cartwright[3] Anonymous Present Knowledge of Iron and Copper in Human Nutrition Nutrition Rev **1** 291 (Oct) 1946

[42] Davis G K Mineral Element Deficiencies and Their Influence on the Growth and Nutrition of Animals Proceedings of the Southern Conference on Nutrition and Public Health School of Public Health, Chapel Hill, University of North Carolina Nov 14 15, 1947, p 9

[43] Nielsen A L On Serum Copper I Introduction Acta med Scandinav **118** 84 (Sept) 1944, III Normal Values ibid **118** 87 (Sept) 1944, IV Pregnancy and Parturition, ibid **118** 92 (Sept.) 1944

[44] Van Ravesteyn A H Metabolism of Copper in Man Acta med Scandinav **118** 163 (Sept) 1944

A disease of ruminants known as scouring has long been associated with teart' pasture areas The herbage from these areas has been found unusually high in content of molybdenum[45] The condition is counteracted by the feeding of copper or by the addition of copper to the soil This antagonism of molybdenum and copper in animal nutrition raises the question of a possibly toxic effect of certain of the pharmaceutic preparations of iron with molybdenum which are now marketed and used in prenatal care[46] This question becomes the more pertinent when it is recalled that there normally occurs a pronounced rise in serum copper in pregnancy and that the fetal (cord) serum is low in copper Will administered molybdenum upset an important metabolic adjustment in copper metabolism? I have been unable to find evidence bearing on this point

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies A copy of the rules on which the Council bases its action will be sent on application

R T Stormont MD *Secretary*

METHAMPHETAMINE HYDROCHLORIDE (See New and Nonofficial Remedies 1949 page 227)

The following dosage form has been accepted

McNeil Laboratories Inc Philadelphia 32

Elixir Syndrox Hydrochloride 473 cc and 3 78 liter bottles An elixir containing 67 mg of methamphetamine hydrochloride in each cc

PENICILLIN FOR ORAL ADMINISTRATION (See New and Nonofficial Remedies 1949, page 156)

The following dosage form has been accepted

The Bio-Ramo Drug Co Baltimore 1

Tablets Crystalline Sodium Penicillin G (*Buffered*) 50 000 and 100 000 units Buffered with sodium benzoate.

SULFADIAZINE-SULFAMERAZINE COMBINED (See The Journal, May 7, 1949, page 21)

The following dosage form has been accepted

Abbott Laboratories North Chicago Ill.

Dulcet Tablets Duozine 0 15 Gm Each tablet contains 75 mg of sulfadiazine and 75 mg of sulfamerazine

U S trademark 301 662 (Dulcet)

SULFADIAZINE-SULFAMERAZINE-SULFAMETHAZINE MIXTURE (See The Journal, Dec 24, 1949 page 1233)

The following dosage form has been accepted

Marvin R Thompson Inc Stamford Conn

Suspension Sulfa-tri-azine with Sodium Lactate 473 cc. bottles A suspension containing 33 mg each of sulfadiazine, sulfamerazine and sulfamethazine and 0 3 Gm. of sodium lactate in each cc.

U S patent 2 460 437

THROMBIN, TOPICAL (See New and Nonofficial Remedies 1949 page 354)

The following dosage form has been accepted

Cutter Laboratories, Berkeley 1, Calif

Thrombin (Human) 2 500 and 5 000 units sterile dried thrombin (human) each packaged with 2 5 cc and 10 cc. vial of isotonic sodium chloride solution respectively

Licensed under U S patent 2 389 074

TETANUS TOXOID-U S P (See New and Nonofficial Remedies 1949 p 501)

The following dosage form has been accepted

Cutter Laboratories Berkeley 1 Calif

Tetanus Toxoid 1 5 cc vials (one immunization) and 15 cc vials (ten immunizations) Preserved with thimerosal 1 10 000

CITRATED NORMAL HUMAN PLASMA-U S P (See New and Nonofficial Remedies 1949 p 474)

The following dosage form has been accepted

Cutter Laboratories Berkeley 1, Calif

Normal Human Plasma (Dried) Equivalent to 250 cc restored plasma, packaged with 250 cc of 0 1 per cent citric acid in distilled water as diluent

DIHYDROXY ALUMINUM AMINOACETATE (See New and Nonofficial Remedies 1949 p 336)

The following dosage form has been accepted

The E. L Patch Company Boston

Magma Alzinox 250 cc. bottles A suspension containing 0 1 Gm of dihydroxy aluminum aminoacetate in each cc. Preserved with 0 1 per cent of sodium benzoate.

Licensed under U S patent 2 480 743

DIPHTHERIA TOXOID-U S P (See New and Nonofficial Remedies 1949 p 496)

The following dosage form has been accepted

Cutter Laboratories Berkeley 1, Calif

Diphtheria Toxoid 1 5 cc. vials (one immunization) and 15 cc. vials (ten immunizations) Preserved with thimerosal 1 10 000

FURTRETHONIUM IODIDE (See The Journal Sept 24 1949 p 264)

The following dosage form has been accepted

Smith Kline & French Laboratories Philadelphia 1

Ophthalmic Solution Furmethide Iodide 10% 15 cc. bottles with dropper stopper A solution containing 0 1 Gm. of furtrethonium iodide in each cc. Preserved with thimerosal 1 100 000

U S patent 2 185 220 U S trademark 381 095

PENICILLIN FOR PARENTERAL USE IN AQUEOUS SOLUTION (See New and Nonofficial Remedies 1949 p 150)

The following dosage form has been accepted

Schenley Laboratories Inc New York 1

Crystalline Potassium Penicillin G 2 000 000 units in 50 cc vials

ALUMINUM HYDROXIDE GEL-N N R (See New and Nonofficial Remedies 1949 page 333)

The following dosage form has been accepted

The Vale Chemical Co, Inc Allentown Pa

Tablets Aluminum Hydroxide Gel 0 324 Gm

THIAMINE HYDROCHLORIDE-U S P (See New and Nonofficial Remedies 1949 page 549)

The following dosage form has been accepted

VanPelt & Brown Inc, Richmond 4 Va.

Tablets Thiamine Hydrochloride 5 mg and 10 mg

CORRECTION

Through error in the monograph for Progesterone (The Journal March 18 page 817) there appears the following statement

"The aqueous suspension is four times as active as the oil solution so that in the latter form, larger doses of the oil solution are required to produce effects equivalent to those obtained with smaller doses of the aqueous suspension This difference is only quantitative"

This statement as well as the dosage differential between the two forms has not been substantiated and is being withdrawn from N N R. 1950

R T Stormont MD *Secretary*

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[45] Stiles W Trace Elements in Plants and Animals 1946 New York The Macmillan Company especially pp 131 135

[46] Neary E R. The Use of Molybdenized Ferrous Sulfate in the Treatment of True Iron Deficiency Anemia of Pregnancy Am. J M Sc. **212** 76 (July) 1946

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SATURDAY APRIL 22, 1950

INFANT DEATHS FROM SUFFOCATION

The Statistical Bulletin of the Metropolitan Life Insurance Company for November 1942 issued a warning on the increase of accidental deaths in earliest childhood The circular predicted that 2 600 children under 1 year of age would be killed accidentally in 1942 The greatest hazard encountered by infants according to this information is that of smothering The Committee on Public Health Relations of the New York Academy of Medicine[1] stated that deaths from mechanical suffocation have increased by almost 60 per cent in the past decade They accounted for more than 1 500 deaths in the United States in 1942 Dr Harold Abramson[2] stated that about 80 per cent of these deaths in New York City for the five year period 1939-1943 occurred in children of less than 1 year of age and 85 per cent of those during the first year of life were in children less than 6 months old It is significant that the peak of infant deaths from mechanical suffocation was reached during the late fall and early winter months

A Current Comment in The Journal Dec 8 1945 called attention to a statement by Davison[3] coroner of Birmingham, England to the effect that statistics relating to infant suffocation are misleading because of overestimation Thus during the years 1938 to 1944 318 infant deaths considered as possibly due to asphyxia were reported to the coroner Of these infants only 38 were shown to have died of asphyxia The remaining 280 deaths were of natural causes principally bronchopneumonia, often associated with otitis media Davison stresses that a postmortem examination is indispensable as part of the routine examination in every case in which suffocation is considered a likely cause of death Since this procedure was adopted in Birmingham in 1929, there has been a decided decrease in infant deaths due to suffocation

Werne and Garrow,[4] of the Office of Chief Medical Examiner, City of New York, have investigated during the past 15 years 167 consecutive cases of infants under 1 year of age found dead in a crib carriage or bed while in apparent good health In not a single instance has their investigation proved accidental mechanical suffocation of a healthy infant by bedclothes or in analogous manner In 43 of these 167 cases the autopsy alone established the presence of a fatal disease In the remaining 124 cases with insufficient gross findings to explain death, complete microscopic studies as a rule revealed acute inflammation of the respiratory tract in association with other significant visceral changes The diagnoses included tonsillitis, laryngotracheitis, bronchitis bronchiolitis interstitial pneumonia and hemorrhagic bronchopneumonia not grossly detectable Lesions were frequently found in the brain, liver, kidneys and lymphatic vessels These lesions, they stress were conspicuously absent from the tissues of 31 infants dying of proved violence These authors also investigated 67 other cases of infants who had been observed to die suddenly and unexpectedly in circumstances in which there could be no possible allegation of smothering The usual cause of death was acute respiratory disease The gross anatomic findings of diseases causing death were mastoiditis and otitis media, "idiopathic" cardiac hypertrophy, congenital heart disease bronchopneumonia, lobar pneumonia, interstitial pneumonitis bilateral adrenal hemorrhage due to conditions such as meningococcemia and meningitis

Bowden[5] of Melbourne Australia stresses that when a previously apparently healthy infant is found dead face down in bed or on his back with the bedclothes over his head it should not be concluded that he has suffocated without a thorough postmortem examination In many of these sudden deaths no gross abnormalities will be found on ordinary microscopic examination of the organs and if the pathologist does not pursue his investigation beyond this stage he will diagnose too many accidental suffocations If he is content only with a thorough postmortem microscopic investigation including organs which appear to the naked eye to be normal and if he enlists the aid of other workers, such as the biochemist and bacteriologist, he will rarely diagnose accidental suffocation from bedclothes From his studies of the sleeping habits of 100 normal babies Bowden concludes that a healthy baby can take care of himself, there is virtually no risk of accidental suffocation from the bedclothes

At a conference on Sudden Death in Infants held under the auspices of the Children's Bureau and the

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[1] Infant Deaths from Mechanical Suffocation Annual Report New York Academy of Medicine, 1945, p 40

[2] Abramson H Accidental Mechanical Suffocation in Infants, J Pediat **25** 404 (Nov) 1944

[3] Davison W H Accidental Infant Suffocation Brit M J **2** 251 (Aug 25) 1945

[4] Werne J and Garrow I Sudden Deaths of Infants Allegedly Due to Mechanical Suffocation Am J Pub Health **37** 675 (June) 1947

[5] Bowden K Sudden Death or Alleged Accidental Suffocation in Babies M J Australia **1** 65 (Jan 21) 1950

National Institutes of Health (Nov 30, 1949), Dr Katherine Bain[6] summed up the situation as follows

Each year in the United States a large number of babies under 1 year of age die of what is classified as accidental mechanical suffocation The story behind the death is usually this An infant in apparent good health and usually between the ages of 2 and 5 months, is put to bed in a crib or baby buggy or in bed with his parents Several hours later the infant is found dead Sometimes he is lying on his face, sometimes bedclothes are over his head Often in the excitement of the discovery the exact conditions are unnoted The physician, the coroner or the medical examiner, confronted with such a death, is likely to assume that the baby has smothered And without an autopsy, or at best after a sketchy one, he writes on the birth certificate that the baby's death was due to 'accidental mechanical suffocation' The mother and father of a baby who has died in this way develop a great sense of guilt, which may disturb their lives for years But there is now abundant evidence that most of these deaths are not due to any external cause but may be the result of a sudden overwhelming infection with which a young baby is not able to cope When a careful postmortem examination is made including a microscopic study, evidence of infection is often found in the baby's respiratory tract, though sometimes elsewhere in his body, as in the membranes of the brain When a careful history is taken information is often brought out concerning respiratory infection in the family, and there may be some indication that the baby himself had not been up to par'

Efforts to prevent sudden death of infants should be directed toward diminishing exposure to known sources of infection during this highly vulnerable period of infant life and to the education of parents in the early signs of acute respiratory disease and their significance

LIVER FUNCTION AND LIVER STRUCTURE

A correlation between morphologic alterations of the liver and the clinical picture and the laboratory findings is difficult, in fact, impossible sometimes For the pathologist it is in many instances difficult to decide whether the gross and microscopic picture of the liver indicates a fatal hepatic insufficiency More obscure at present is the correlation between the morphologic changes and the results of the various hepatic tests Few of these tests measure a basic function of the liver which no other organ performs Most of them concern determinations of biochemical or serologic changes which occur in various hepatic disorders, but often also in other conditions The claim has been made repeatedly that no correlation can be made between the histologic picture and the results of the hepatic tests Nevertheless it is obvious that some kind of correlation must exist between the deranged hepatic function, apparent from clinical or laboratory findings, and alteration of the histologic picture The difficulty lies in the recognition of this correlation

With the recently expanded use of the liver biopsy it has been possible to compare the histologic picture with the results of hepatic tests performed simultaneously with the biopsy This avoids the confusion that has been produced by the functional and anatomic changes which the liver undergoes in the agonal period as well as by the decomposition of the liver after death These processes render observations in necropsy material difficult to interpret One approach to such a correlation is the observation of the coincidence of anatomic, clinical and functional changes in the same patient, based particularly on multiple biopsy studies during the course of the disease[1] Another approach correlates the statistical coincidence of various morphologic features with the results of tests on a large amount of material, without reference necessarily to the diagnosis Obviously, much overlapping will occur

On the basis of such studies[2] a statistically significant correlation was found between diffuse liver cell damage and the albumin-globulin ratio, cephalin flocculation thymol turbidity and sulfobromophthalein retention The correlation with other tests was less significant or absent Focal necrosis or diffuse fatty metamorphosis even if histologically conspicuous, failed to reveal a correlation Regeneration coincided best with increased thymol turbidity, cirrhosis formation coincided with elevated cephalin flocculation, thymol turbidity and sedimentation rate while Kupffer cell activity was related to elevated serum bilirubin and reduced albumin-globulin ratio Subsequently, the degree of morphologically recognizable liver cell damage was statistically correlated with the degree of abnormality of various tests[3] This quantitative correlation was significant with an increase in cephalin flocculation thymol turbidity, total and direct bilirubin and with a decrease in albumin and albumin-globulin ratio Abnormal results of other tests, such as elevation of serum alkaline phosphatase and urinary urobilinogen, were associated with the presence of liver cell damage but did not measure its degree However, these general coincidences do not necessarily apply to every disease For instance, even in severe liver cell damage in the presence of a noninfected extrahepatic biliary obstruction the results of flocculation tests may be normal

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[6] Bain K When a Baby Dies Unexpectedly Child **14** 130 (March) 1950

[1] Sherlock S P V Biochemical Investigations in Liver Disease Some Correlations with Hepatic Histology J Path & Bact **58** 523 1946 Watson C J and Hoffbauer F W Liver Function in Hepatitis Ann Int Med **26** 813 1947 Volwiler W Jones C M and Mallory T B Criteria for the Measurement of Results of Treatment in Fatty Cirrhosis Gastroenterology **2** 164 1948 Kinsell L W Weiss H A Michaels G D Shaver J S and Barton H C Jr Correlation of Hepatic Structure and Function Am J Med **6** 292 1949

[2] Franklin M Popper H Steigmann F and Kozoll D D Relation between Structural and Functional Alterations of the Liver J Lab & Clin Med **33** 435 1948

[3] Popper H Steigman F and Szanto P B Quantitative Correlation of Morphologic Liver Changes and Clinical Tests Am J Clin Path **19** 710 1949

A statistical analysis indicates only an association and not a causative relation Nevertheless, it permits expectation of certain morphologic changes from the results of the hepatic tests It may aid, therefore, in the practical evaluation of the hepatic tests and in the establishment of the functional significance of histologic features So far these studies have emphasized the importance of diffuse damage of hepatic epithelial cells for many of the tests Although the conclusions drawn so far are not final, the correlation between hepatic function and structure appears now less hopeless than it did several years ago Eventually, such studies may lead to a systematic utilization of the hepatic tests in the clinical management of hepatobiliary diseases

Current Comment

ACTH IN OPHTHALMOLOGY

Elsewhere in this issue are three papers on the use of pituitary adrenocorticotropic hormone (ACTH) in medicine Two of these papers report observations made on the treatment of diseases of the eye The reports are preliminary and are not intended to suggest the routine use of this hormone in ophthalmologic conditions, they are offered to permit the readers of The Journal to see the extent to which this remarkable hormone is being studied As one author states, the series is far too small to permit any conclusions Nevertheless, a new field of exploration is offered for researchers who are experienced and qualified in this field Time will reveal the full therapeutic possibilities Until then the use of ACTH in ophthalmologic conditions must be regarded as still in the experimental stage

USE OF RADIOACTIVE ISOTOPES

A special committee of the American Academy of Pediatrics for the study of radiation effects in childhood has recommended that research study with radioactive isotopes should not be undertaken on pregnant women unless the study cannot be undertaken on animals and unless the study is approved by the Committee for Human Use of Radioactive Isotopes of the Atomic Energy Commission This recommendation was made because of the current availability of some radioactive isotopes Such actions seem appropriate at this time Frank H Krusen has pointed out,[1] "Until more is known concerning the immediate and remote effects of radioisotopes, it will be well for all institutions which are employing atomic energy, either for treatment or for experimentation, to have a team of workers including, at least, a radiologist, an internist and a physiologist to provide the necessary safety precautions and to control all methods of using atomic energy" The Advisory Committee on the Medical Aspects of Atomic Energy of the Council on Physical Medicine and Rehabilitation has been asked to prepare a report on the dangers of atomic energy as employed in medicine Until more information on the dangers of atomic energy is available, much caution should be exercised to prevent the indiscriminate use of radioactive substances either in treatment or in research

SAFEGUARDS IN BOXING

The somewhat peculiar hazards of boxing have been called to the attention of the medical profession and the public over a period of years in publications of the American Medical Association[1] Through its radio programs and transcription series the Association also has warned of the specific dangers[2] The inherent risk attached to any activity in which the head is often the target for blows has been emphasized, and the need for the most stringent kind of supervision, if the sport is to be conducted at all, has been stressed The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association has passed a resolution disapproving boxing as an interschool activity The Committee based its action primarily on the premise that boxing is one of the few sports in which the offensive goal is to strike the opponent and in which the head is a principal target There is a resultant potential of permanent injury to the central nervous system, particularly the brain, that may eventuate in a loss of mental power and physical coordination Realizing that boxing would be continued, the Committee also outlined exacting health and safety precautions that should be taken when the activity is conducted It was the feeling of the Committee, however, that few schools are in a position to provide the essential equipment and facilities, the trained teaching personnel and the careful medical supervision needed to assure optimum conditions of safety for participants Professional boxing and amateur boxing conducted outside the school, under a variety of sponsorships, are somewhat different The contestant is usually more mature and chooses to participate "on his own" and without the stimulus furnished by the sanction and implied approval of an educational institution Nevertheless, the sport in all its ramifications demands the closest kind of supervision and control Recent ring deaths, usually following brain injury, have spurred regulatory bodies to careful scrutiny of boxing codes in various states No amount of regulation can completely remove the hazards of the activity, but every effort must be made to provide the safest possible competitive conditions The New York State Boxing Commission through its Medical Advisory Board has recently set up a strict code for medical supervision of boxers and wrestlers participating under its jurisdiction Dr Frank R Ferlaino, chairman of the board, in reporting the action expresses the hope that the new regulations will safeguard the health of the athletes concerned and reduce accidents before, during and after bouts A digest of the code will be found on page 1304

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[1] Krusen, F H Atomic Energy in Medical Practice M Clin North America **31** 972 (July) 1947

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[1] Martland, H S Punch Drunk J A M A **91** 1103 (Oct 13) 1928 Romino, J D Boxing and Intracranial Injuries West Virginia M J **45** 19, 1949, abstracted, J A M A **140** 652 (June 18) 1949 Gorman, T Death in the Ring, Hygeia **27** 384 (June), 1949

[2] Punch Drunk, Doctors Today series American Medical Association Broadcasts over National Broadcasting Company network, 1948 (Jan 31) no 195 To Box or Not to Box, Your Child Goes to School radio transcription series, American Medical Association Bureau of Health Education, 1949 no 2

ORGANIZATION SECTION

Official Notes

GROWTH OF HEALTH COUNCILS

Community health councils in the nation have increased from 82 to nearly 300 in the last two years according to a recent survey by the American Medical Association's Council on Medical Service Local achievements of the community health councils in the last five years include construction of hospitals with the aid of the Hospital Survey and Construction Act (Hill Burton Act) increasing available hospital beds, developing clinics securing more doctors dentists, nurses and other needed personnel development of full time local public health services health examination of children of school and preschool age and correction of their remediable health defects, promotion of voluntary prepayment medical care and hospitalization, provision of medical care for the aged and chronically ill, and meeting costs of medical service to families unable to pay hospital and doctor bills Councils have matched government funds to pay mental health clinic personnel and conducted educational campaigns to acquaint communities with the value and manner of operation of the clinics Health councils have been especially important in bringing better medical care to the people of rural communities The A M A s efforts to promote organization of community health councils to improve medical care for rural communities date back five years, to the organization of the association s Committee on Rural Health Since that time it has been actively engaged in coordinating the efforts of farm groups and state and local medical societies in rural health

Washington Letter

(From a Special Correspondent)

April 17 1950

Hearings on Health Bills

The health legislation subcommittee of the Senate Labor and Public Welfare Committee will meet in open session April 24 to hear testimony by Senator Lester C Hunt (Democrat Wyoming) in support of his bill which would establish a department of health and initiate a government sponsored voluntary health insurance program

On April 25 the subcommittee will launch three days of hearings on a bill for establishment of a United Medical Administration along lines recommended last year by the Hoover Commission May 9-10 are the dates scheduled for taking of testimony on a bill introduced by Senator Hubert H Humphrey (Democrat Minnesota) to authorize federal financial aid to health cooperatives and certain prepayment medical care plans On May 8 the subcommittee, whose chairman is Senator James E Murray (Democrat, Montana), will meet in executive session to discuss the Douglas bill on research into child health and welfare

Controversy Over Hospitals' Closing Still Unsettled

Reconsideration by the Department of Defense management committee of Secretary Louis Johnson's order closing five army and navy hospitals was promised recently to the chairman of a special congressional committee investigating the closings It was deemed unlikely, however that Defense would accede to the committee s request that all five institutions be kept in commission

Conflicting opinions as to the savings which would be effected by the hospital cutback, including reduction in status of thirteen facilities besides the five to be closed outright, were presented to the House subcommittee on armed services appropriations Although the hearing was held March 30 in executive session the transcript was not made public until April 8 Witnesses included Rear Admiral Clifford A Swanson Navy Surgeon General Dr Richard L Meiling medical director in the Department of Defense and Dr H A Press, director of management and planning in Veterans Administration

Secretary Johnson had stated the hospital retrenchment would save $25,000,000 annually, but Assistant Secretary W J McNeil testified that the saving would be slightly over $6 000,000 in the first year Admiral Swanson referring to McNeil s estimate that $715 000 of this amount would accrue to navy department economy, asserted flatly that it would be more than offset by terminal leave payments, added transportation costs and numerous other extra expenses

The Surgeon General noting that the House Appropriations Committee reduced the navy s budget by $4,000 000 on the supposition that millions would be saved by the hospital retrenchment program warned that, unless full restoration is made provision of essential medical services will have to be curtailed

Dr Press testified that deactivation of the five hospitals and reduction of thirteen others in size would result in allocation of beds for Veterans Administration patients being reduced to 3 585 At present 6,335 beds in army and navy hospitals are allocated for veterans

General Romulo Carries Terramycin to Philippines

Gen Carlos P Romulo, ambassador from the Philippines and president of the United Nations General Assembly left Washington by plane for his homeland on April 11, carrying with him 5 000 capsules of terramycin (antibiotic produced by Streptomyces rimosus) for emergency treatment of typhus undulant fever and other diseases It was a gift from the drug s manufacturer Charles Pfizer & Co of Brooklyn

This shipment of terramycin which I am taking with me said General Romulo, is symbolic of what the United Nations Organization means in its basic human not political endeavors During the Japanese occupation we lost a number of our finest medical institutions and hundreds of our ablest clinicians This plus the fact that we are a poor country, explains why we do not have either in kind or in number sufficient hospitals doctors and trained technicians Neither do we have the newest drugs such as terramycin As a consequence thousands of lives are needlessly lost each year

Medical Defenses Against A-Bomb Warfare

The Joint Congressional Committee on Atomic Energy has made public the testimony—edited so as to exclude security classified information—presented to its members in executive session on March 30 by Dr Norvin C Kiefer director, Health Resources Division National Security Resources Board His testimony dealt with mobilization and coordination of all resources for saving of life and treatment of casualties in event of an atomic bomb attack

Special problems now under study said Dr Kiefer include collection of blood and blood derivatives standardization of treatment of burns evacuation of casualties prevention of spread of diseases from animals to man and strengthening of industrial hygiene Steps are being taken, he added to declassify certain data on biologic warfare to permit distribution among state and local public health authorities He also noted that courses of instruction have been started to teach physicians dentists nurses and allied personnel the fundamentals of radiologic defense

Antihistamine Hearings Scheduled

The Federal Trade Commission has announced it will hold hearings April 28 on its separate complaints against Bristol-Myers Co and Analist Co, Inc for their advertising claims in connection with marketing of Resistab and Analist respectively Both companies are charged with misrepresenting therapeutic properties of the antihistamine products the complaints being the first of their kind to be issued

As a result of the Commission's investigation the following conclusions were drawn and are set forth in the complaint against Bristol-Myers

Resistab is neither a cure nor an adequate treatment for the common cold or its symptoms, it is not a preventive against infection or its manifestations, it will not arrest a cold's development even if dosage is taken early and it may be unsafe and harmful even when the drug is taken as directed

Regarding Anahist, advertising claims that it was tested by the Navy Medical Corps are challenged by the Federal Trade Commission and branded as false The complaint also denies that such initial manifestations of a cold as sneezing, coughing and nasal discharge are due to presence in nose and throat of excessive amounts of histamine as claimed in the firm's advertisements

The use of Anahist in no way contributes to the operation of the defense mechanism of the body against its invasion by the cold virus, says the complaint "The body has no 'natural defense' against the manifestations of the common cold except its ability to overcome the causative infection and this will be in no way assisted by the use of Anahist"

The Federal Trade Commission has scheduled May 19 for a hearing on its complaint against Union Pharmaceutical Co, centering around charges that advertising claims for the antihistaminic product "Inhiston are false and misleading

Another antihistaminic product was cited March 24 when the Federal Trade Commission issued a complaint against Whitehall Pharmacal Co for its advertising campaign in behalf of Kriptin The government charges are similar to those filed against Resistab and Anahist The sole active ingredient of the Whitehall firm's tablets is 25 mg of pyranisamine maleate, according to the complaint

Another April complaint by the Federal Trade Commission was directed at a Chicago group, trading as Dr Ritholz & Sons Co whose marketing of devices for self testing of visual acuity was described as deceptive

The commission approved a stipulation in which J C Eno, Inc, of Bloomfield, N J, agree to modify claims for 'Eno's Effervescent Salt'

Coming Medical Meetings

Aero Medical Association, Chicago May 29 31 Dr Thomas H Sutherland 214 S State St Marion Ohio Secretary

American Association of Industrial Physicians and Surgeons, Chicago, Hotel Sherman, April 24 28 Dr Frederick W Slobe 28 E Jackson Blvd Chicago 4, Secretary

American Association of Genito-Urinary Surgeons Hershey Penn Hotel Hershey May 24 26 Dr Norris J Heckel 122 S Michigan Ave Chicago 3 Secretary

American Association of the History of Medicine, Boston May 21 23 Dr Benjamin Spector 416 Huntington Ave Boston 15 Secretary

American Association on Mental Deficiency, Columbus Ohio Hotel Deshler Wallick, May 16 20 Dr Neil A Dayton, P O Box 96 Willimantic Conn Secretary

American Broncho Esophagological Association San Francisco Mark Hopkins Hotel May 25 26 Dr Edwin N Broyles, 1100 N Charles St, Baltimore 1, Secretary

American Congress on Obstetrics and Gynecology, New York Hotel Pennsylvania, May 14 19 Dr F Bayard Carter Duke Medical School Durham N C, Secretary

American Gastro-Enterological Association, Atlantic City April 28 29 Dr Dwight L. Wilbur, 655 Sutter St, San Francisco, Secretary

American Gastroscopic Society, Atlantic City April 28 29 Dr H Marvin Pollard, University Hospital, Ann Arbor Mich, Secretary

American Geriatrics Society, New York Hotel Commodore June 1 3 Dr Malford W Thewlis, 25 Mechanic St, Wakefield, R I, Secretary

American Gynecological Society White Sulphur Springs, W Va, The Greenbrier May 11 13 Dr Norman F Miller 1313 E Ann St Ann Arbor Mich Secretary

American Hearing Society, Chicago Drake Hotel, June 15 17 Mrs Frances T Lee, 817 Fourteenth St N W Washington 5 D C

American Laryngological Association San Francisco May 23 24 Dr Louis H Clerf 128 S Tenth St Philadelphia 7 Secretary

American Laryngological Rhinological and Otological Society San Francisco May 25 27 Dr C Stewart Nash, 277 Alexander St Rochester 7 N Y Secretary

American Neurological Association Atlantic City, Claridge Hotel June 12 14 Dr H Houston Merritt 710 W 168th St New York 32, Secretary

American Ophthalmological Society Hot Springs Va The Homestead May 31 June 2 Dr Maynard C Wheeler 30 W 59th St New York 19 Secretary

American Orthopedic Association Virginia Beach Va May 23 26 Dr C Leslie Mitchell Henry Ford Hospital Detroit 2 Secretary

American Otological Society San Francisco May 21 22 Dr Gordon D Hoople, 1100 E Genesee St Syracuse 10 N Y, Secretary

American Pediatric Society French Lick Ind May 8 10 Dr Henry G Poncher, 1819 W Polk St. Chicago 12 Secretary

American Psychiatric Association Detroit May 1 5 Dr Leo H Bartemeier General Motors Bldg Detroit 2 Secretary

American Psychoanalytic Association Detroit Hotel Statler April 28 30 Dr LeRoy M A Maeder 1910 Rittenhouse Square Philadelphia 3 Secretary

American Psychosomatic Society, Atlantic City Chalfonte Haddon Hall April 29 Dr Sydney G Margolin 714 Madison Ave New York 21 Secretary

American Radium Society New York Roosevelt Hotel May 25 26 Dr Hugh F Hare 605 Commonwealth Ave. Boston 15 Secretary

American Society for Clinical Investigation Atlantic City May 1 Dr Paul B Beeson Grady Hospital Atlanta 3 Ga Secretary

American Urological Association Washington D C Hotel Statler May 29 June 1 Dr Charles H deT Shivers Boardwalk National Arcade Bldg Atlantic City, N J, Secretary

Arizona State Medical Association Phoenix Hotel Westward Ho April 30 May 4 Dr Frank J Milloy 234 N Central Ave, Phoenix Secretary

Association for Physical and Mental Rehabilitation Memphis Tenn Hotel Peabody May 23 27 Mr Benjamin Forman 57 Granger St Canandaigua N Y, Secretary

Association of American Physicians Atlantic City, May 2 3 Dr Henry M Thomas Jr 1201 N Calvert St. Baltimore 2, Secretary

California Medical Association San Diego April 30 May 3 Dr L. Henry Garland 450 Sutter St San Francisco Secretary

Connecticut State Medical Society Waterbury May 2 4 Dr Creighton Barker 160 St Ronan St, New Haven Secretary

Florida Medical Association, Hollywood, April 23 26 Dr Robert B McIver, P O Box 1018, Jacksonville, Secretary

Hawaii Territorial Medical Association, Hilo May 4 7 Dr I L Tilden Mabel Smyth Bldg Honolulu 13 Secretary

Illinois State Medical Society, Springfield Illinois State Armory May 23 25 Dr Harold M Camp, 224 S Main St Monmouth, Secretary

International and Fourth American Congress on Obstetrics and Gynecology, New York Hotel Pennsylvania May 14 19 Dr Fred L Adair 161 E Erie St Chicago 11 Information Headquarters

International Congress on Asthma Mont Dore France June 3 4 Secretariat 59 rue Bonaparte Paris France

Iowa State Medical Society Burlington, April 23 26 Dr Allan B Phillips, 406 Sixth Ave, Des Moines 9, Secretary

Kansas Medical Society Wichita May 15 18 Dr D D Vermillion 512 New England Bldg Topeka Secretary

Louisiana State Medical Society, Baton Rouge, April 24-26 Dr P T Talbot, 1430 Tulane Ave New Orleans 13 Secretary

Maryland Medical and Chirurgical Faculty of the State of Baltimore April 25 26 Dr George H Yeager 1211 Cathedral St Baltimore 1 Secretary

Massachusetts Medical Society Boston Hotel Statler May 16 19 Dr H Quimby Gallupe 8 Fenway Boston 15 Secretary

Minnesota State Medical Association Duluth June 12 14 Dr B B Souster 496 Lowry Medical Arts Bldg St Paul 2, Secretary

Mississippi State Medical Association Jackson May 9 11 Dr T M Dye Box 295 Clarksdale Secretary

National Tuberculosis Association Washington D C, April 25 28 Dr James E Perkins 1790 Broadway, New York 19, Managing Director

Nebraska State Medical Association Lincoln Hotel Cornhusker May 1 4 Dr R B Adams 1315 Sharp Bldg Lincoln Secretary

New Jersey Medical Society of Atlantic City Haddon Hall May 22 24 Dr Marcus H Greifinger 315 W State St Trenton 8 Secretary

New Mexico Medical Society Las Cruces May 4 7 Dr H L January 4852 Southern Ave Albuquerque Secretary

New York Medical Society of the State of New York May 8 12 Dr Walter P Anderton 292 Madison Ave New York 17 Secretary

North Carolina Medical Society of the State of Pinehurst, The Carolina May 1 3 Dr Millard D Hill 15 W Hargett St Raleigh Secretary

North Central Clinical Society Cincinnati Netherland Plaza Hotel April 29 Dr John H Payne 5 W Fourth St, Cincinnati, Secretary

North Dakota State Medical Association, Grand Forks May 27 30 Dr O A Sedlak 702 First Ave S Fargo Secretary

Ohio State Medical Association Cleveland May 16 19 Mr Charles S Nelson 79 E State St Columbus 15 Executive Secretary

Oklahoma State Medical Association, Oklahoma City May 14 17 Dr Lewis J Moorman 210 Plaza Court Oklahoma City Secretary

Rhode Island Medical Society, Providence R I Medical Library, May 10 11 Dr Morgan Cutts 106 E Francis St, Providence 3 Secretary

Society of American Bacteriologists Baltimore May 15 19 Dr John E Blair 1919 Madison Ave New York 35 Secretary

South Carolina Medical Association Myrtle Beach May 16-18 Dr Julian P Price 105 W Cheves St Florence, Secretary

South Dakota State Medical Association Mitchell May 20 23 Dr Roland G Mayer 22½ S Main St Aberdeen Secretary

Texas State Medical Association of Fort Worth May 2 5 Dr Harold M Williams, 700 Guadalupe St Austin Secretary

Western Branch, American Public Health Association, Portland Ore. May 30 June 1 Mr Walter S Mangold University of California Berkeley, Calif Secretary

GOVERNMENT SERVICES

ARMY

SUMMER TRAINING FOR RESERVISTS

The Fifth Army s medical reservists will spend two weeks in practical field training this summer at Camp McCoy Wis Trainees will study camouflage field fortifications arctic and tropical warfare and defense against chemical mechanized aircraft and atomic attacks The 14 day training cycle will be given twice—July 16 to 29 and July 30 to August 13—and is to be staged and directed by members of the 301st Hospital Center a Chicago reserve medical unit under the leadership of Brig Gen Carl L Steinhoff of 6207 North Artesian Avenue Chicago Specialists from the Surgeon General s office in Washington will discuss topics of current interest to the medical corpsmen Among those who will attend the Camp McCoy sessions is Col W L Wilson special assistant to the Surgeon General for Civil Defense Washington D C Two hundred and sixty-four officers, enlisted men and Army nurses from 13 medical units in Fifth Army's area are scheduled to attend the two week sessions

TEMPORARY PROMOTIONS

Nominated by the President for temporary promotion in the Medical Department were Brigadier Generals Leonard D Heaton and Arthur R Gaines both to the rank of major general and Colonels James P Cooney and Maxwell G Keeler to the rank of brigadier general The nominations are awaiting confirmation by the Senate. General Heaton since 1946 has been chief of the surgical service at Letterman General Hospital San Francisco He has been in the regular Army since 1927 General Gaines is now commanding Brooke General Hospital Fort Sam Houston Texas He entered the Army in 1917 and was certified by the American Board of Internal Medicine in 1944 Colonel Cooney is now chief of the Radiological Branch Division of Military Application U S Atomic Energy Commission Colonel Cooney entered the service in 1927 He is a specialist certified by the American Board of Radiology Colonel Keeler is at present commanding Madigan General Hospital Tacoma Wash. He was commissioned in the regular Army in 1920 Shortly after the Pearl Harbor attack he assumed command of the 5th General Hospital in Europe remaining there until October 1944 when he became commanding officer of the 803rd Hospital Center in the same theater

GENERAL ROBERTS RETIRES

A review at Fitzsimons General Hospital honored Brig Gen Edwin H Roberts hospital commander on his retirement on March 31 after 32 years service with the Medical Department Among the distinguished guests present for the ceremony was Governor W Lee Knous of Colorado During World War II General Roberts commanded the 208th and 95th General Hospitals He returned to the States in March 1945 and directed the inactivation of Thayer General Hospital and, later Lovell General Hospital and then was appointed deputy commissioner and chief of professional services at Percy Jones General Hospital Battle Creek Mich He is a specialist certified by the American Board of Internal Medicine Col Howard W Doan who has served as deputy commander under General Roberts has been appointed as temporary commanding officer

CERTIFICATIONS BY SPECIALTY BOARDS

Five medical officers have recently been certified by American specialty boards

Col William A Todd Jr, surgery, Col Vernon J Erkenbeck, otolaryngology Lieut. Col Richard P Mason, preventive medicine and public health Lieut Col Charles W Hoffman Jr urology and Major Robert D Anderson orthopedic surgery

PERSONAL

Col James P Cooney (MC), chief Radiology Branch, Division of Military Application Atomic Energy Commission, discussed Problems of the Physician in Atomic Warfare' before the Canadian Association of Radiologists in Montreal, January 5

NAVY

CORRESPONDENCE COURSES

Two additional correspondence courses are available for distribution to qualified naval reserve and regular medical department personnel

Title of Course	Promotion Units	Retirement Points	Eligible Personnel
Radiological Defense and Atomic Medicine	3	36	MC DC MSC NC HC (officers only)
Insect, Pest and Rodent Control	2½	32	MC DC, MSC NC HC (officers and enlisted)

Application for enrolment should be made to the Bureau of Medicine and Surgery via appropriate official channels

WOMAN DOCTOR ORDERED TO SEA DUTY

According to the Bureau of Medicine and Surgery, Lieut Comdr Bernice R. Walters (MCR), who is under orders to report to the U S Navy Hospital Ship *Consolation* late this summer, is the first woman doctor ever ordered to duty aboard a Navy ship Dr Walters received a B S degree in 1932 from Long Island University and an M D from Woman s Medical College of Pennsylvania She completed an internship in 1937 at St Francis Hospital La Crosse, Wis After two years' residency training, she was in private practice until her appointment in the Naval Reserve in 1943 She served during World War II and volunteered for return to active duty in 1948. Dr Walters holds a private pilot's license

PERSONAL

Comdr John W Metcalfe (MC USN) has been nominated for duty under instruction in a residency in orthopedic surgery Naval Hospital San Diego, Calif, where he is now stationed

Lieut (jg) Thomas C Beaman of Memphis Tenn, and Lieut (jg) Lewis C Lohoff, of Hutchinson, Kan have been nominated for active duty as interns in naval hospitals

Comdr George M Bell and Lieut. Comdr Max O Sartori have been nominated for duty under instruction in the Navy s Graduate Training Program to a residency in orthopedic surgery and to a residency in surgery respectively at Naval Hospital, Oakland Calif

Capt. F R Lang Comdr Joseph J Timmes and Comdr Howell E Wiggins have been certified by the American Board of Preventive Medicine and Public Health in the Founders Group American Board of Surgery and the American Board of Orthopedic Surgery, respectively

Comdr Howard A Johnson and Lieut Comdr Ralph D Ross have been nominated for duty under instruction in the Navy s Graduate Training Program to a residency in surgery Naval Hospital Portsmouth, Va. and to a residency in internal medicine Naval Hospital San Diego, Calif respectively

The following medical officers have been certified by the specialty boards indicated Capt. Frank P Kreuz Jr and Comdr John S Thiemeyer Jr American Board of Orthopedic Surgery and Lieut John B Reddy American Board of Otolaryngology

PUBLIC HEALTH SERVICE

APPOINT CONSULTANTS ON NUTRITION

The appointment of eight physicians as consultants on nutrition to the Public Health Service, in order to broaden the effectiveness of technical assistance to states and local communities, was announced March 30 The newly appointed consultants are Dr Frederick J Stare, professor of nutrition, Harvard University, Boston, Dr Norman Jolliffe, director, Bureau of Nutrition, New York, Dr A Hughes Bryan, professor of nutrition, School of Public Health, University of North Carolina Chapel Hill, N C Dr Richard W Vilter, associate professor of medicine, University of Cincinnati, Cincinnati, Dr Robert E Shank, professor of preventive medicine, Washington University, St Louis, Dr William J Darby, director, Division of Nutrition, Vanderbilt University, Nashville, Tenn , Dr Philip C Jeans, head of department of pediatrics, State University of Iowa, Iowa City, and Dr Grace A Goldsmith, professor of medicine, Tulane University, New Orleans

DR M I SMITH RETIRES

Dr Maurice I Smith chief pharmacologist in the Public Health Service has retired after 30 years of research with the National Institutes of Health and its predecessor, the Hygienic Laboratory While Professor of Pharmacology at the University of Nebraska Medical School, Dr Smith accepted a temporary position with the Public Health Service in 1918, two years later he accepted a permanent position at the Hygienic Laboratory He was born in Russia and received his M D degree from Cornell University Medical School The next three years he was an instructor at the University of Michigan Medical School, from there he went to the University of Nebraska Dr Smith is the author or co-author of 124 scientific papers He is a member of the American Society for Pharmacology and Experimental Therapeutics, the Society for Experimental Biology and Medicine the Washington (D C) Academy of Science and the American Trudeau Society

GRANTS FOR WATER POLLUTION STUDIES

Grants totaling $995,427 for water pollution studies have been awarded state and interstate agencies during the first year in which funds have been available Last of the grants to be approved for the year was $17,774 to Virginia for a study of the effects of industrial waste

Following are the approved grants

Arkansas, $17,396 studies of pollution resulting from wastes produced by oil and paper industries mining operations, canneries and dairy products plants

California $27,370 additional personnel and equipment to strengthen existing antipollution programs with particular reference to industrial wastes

Minnesota $8,500 studies of treatment of beet sugar refinery wastes

Ohio $12 900 studies of the toxicity of electroplating wastes

Washington $10 000 studies of the effect of industrial wastes including paper and pulp mills, on aquatic life

Atlantic Marine Fisheries Commission $10 000 compilation of previous pollution surveys of the Atlantic Seaboard a review of remedies previously proposed or adopted and a study of current production and the economic effects of pollution in fisheries areas as they relate to industrial wastes.

RESEARCH ON KIDNEY CONDITIONS

Three physicians have been appointed to the Research Branch of the National Heart Institute All will be on the staff of the Section on Kidney and Electrolyte Metabolism This is the second of five laboratory-clinical sections to be established in the research program of the institute The three scientists are

Dr Ernest Cotlove, a research fellow of the Division of Medical Sciences National Research Council

Dr James O Davis formerly on the staff of the Public Health Service Marine Hospital in Baltimore

Dr Thomas J Kennedy Jr a research fellow with Research Service First (Columbia) Medical Division Goldwater Memorial Hospital

PERSONAL

Dr Cornelius B Philip has been named assistant director of the Rocky Mountain Laboratory of the National Institutes of Health, Helena Mont He has served as medical entomologist at the Rocky Mountain Laboratory since 1930

VETERANS ADMINISTRATION

SEMINARS AT VETERANS HOSPITAL, DOWNEY, ILL

The Veterans Administration Hospital at Downey, Ill , invites physicians and allied personnel to attend the following series of seminars in neuropsychiatry and related fields

April 12 1950—Dr Franz Alexander director Chicago Psychoanalytic Institute and professor of psychiatry, University of Illinois

April 19 1950—Dr J L Moreno director Psychodramatic Institute Beacon N Y

April 26 1950—Dr Sandor Rado director of the Post Graduate Training Neuropsychiatric Institute Columbia University

May 10 1950—Dr Franz Kallmann, director, Department of Medical Genetics Neuropsychiatric Institute Columbia University

May 17 1950—Dr Ralph W Gerard professor of physiology University of Chicago

May 24 1950—Dr Theresa Benedek, training analyst Chicago Psychoanalytic Institute

May 31, 1950—Dr Warren S McCulloch, research professor of neurophysiology, Department of Psychiatry, University of Illinois

June 7 1950—Dr Gregory Zilboorg, instructor New York Psychoanalytic Institute, New York

June 14 1950—Dr William Malamud professor of psychiatry Boston University School of Medicine

June 21 1950—Dr Frieda Fromm Reichmann training analyst Washington Baltimore Psychoanalytic Institute

Date to be announced—Dr Karl Menninger

Each speaker will conduct a seminar or demonstration at the hospital at 10 a m and 2 p m and at 8 p m will deliver a lecture at the Veterans Administration Regional Office, 366 West Adams Street, Chicago 6 There will be no charge for this series Further information may be obtained by writing to Byron S Cane M D Manager

BIDS FOR HOSPITAL CONSTRUCTION

The Veterans Administration is accepting sealed bids for a new 1,000 bed hospital in Salisbury, N C, that will involve nearly 10,000,000 cubic feet of construction and will be erected on a 41 acre site in the northwestern section of the city, consisting of 17 buildings and eight connecting tunnels The project includes an administration building, medical and surgical building, two admissions buildings, cafeteria and kitchen, recreation and occupational therapy and apartment buildings The buildings are to have concrete foundations, brick-faced exterior walls with stone trim and backed with hollow tile, reinforced concrete floors and built-up roofs Because the Salisbury hospital is to be built in as short a period as possible, bids will be evaluated on the basis of time as well as amount of money Bids, prepared in triplicate, should be submitted to the Director, Construction Service, Veterans Administration, Washington 25, D C, by 1 30 p m, April 25, 1950

PERSONAL

Dr Michael L Matte will succeed Dr Robert C Cook as manager of the Veterans Administration hospital at Fort Logan, Colo , effective January 22 Dr Cook will become assistant chief medical director in the central office of the Veterans Administration Dr Matte has been chief medical officer at the Veterans Administration Center, Wood, Wis

Dr Delmar Goode has been named manager of the Little Rock Hospital, Arkansas He formerly was medical director, supervising activities of hospitals in and around Washington, D C

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest such as relate to society activities new hospitals education and public health Programs should be received at least two weeks before the date of meeting)

ARIZONA

State Medical Meeting —The Arizona Medical Association will hold its annual meeting at the Westward Ho Hotel in Phoenix April 30-May 3, under the presidency of Dr Robert S Flinn, Phoenix. Guest speakers at the general sessions include

John M Waugh Rochester Minn Indications for Operation and the Management of Peptic Ulcer
George C. Griffith Pasadena Calif Treatment of Edema
Harry B Macey Temple Texas Low Back Pain
Stephen R. Elek Los Angeles Functional Heart Disease

The dinner dance will be held Tuesday evening Several state specialty societies and the Western Orthopedic Association will meet in conjunction with the state association The Woman's Auxiliary will meet May 1-3 at the hotel

ARKANSAS

Grant for Pediatric Pavilion —A gift of $500 000 from the William Buchanan Foundation of Dallas Texas will provide a pediatric floor in the new medical center in Little Rock, to be known as the William Buchanan Pavilion for Children This grant with matching federal funds will allow construction increasing the bed capacity of the new hospital from 400 to 500 In addition, a rapid treatment unit for neuropsychiatric patients will be provided Plans for the new hospital and University of Arkansas School of Medicine building are being drawn and construction will begin before the end of 1950

COLORADO

Outbreak of Animal Rabies —An outbreak of animal rabies in the four county area comprising metropolitan Denver has been reported The four county statistics for recent years show no cases in 1944 and 1945 5 in 1946 11 in 1947 and 2 in 1948 From October 1949 through March 18, 1950 70 cases have been reported 55 cases having occurred since January 1, all in domestic dogs, with the exception of 2 in cats Twenty four persons in Denver proper and 33 in the immediately adjoining counties have been reported to the Colorado Health Department as undergoing treatment after bites by rabid dogs Ernest S Tierkel D V M, who is Rabies Control Consultant of the U S Public Health Service's Communicable Disease Center at Atlanta Ga., is temporarily in Denver advising state and local health officials and professional organizations regarding the epidemic

CONNECTICUT

New Hartford Hospital —Constructed at a cost of $1,700 000 the 115 bed Mount Sinai Hospital of Hartford opened March 19 Officials hope within a few years to add a fifth floor to the rear building to serve 150 patients Complete medical and surgical service will be provided in emergency and outpatient departments The maternity department which has not been part of the hospital since 1943 because of lack of room, provides for 21 mothers and 27 infants

IDAHO

Hospital News —Dr Wallace Bond, Twin Falls, councilor for the Southern District, represented officers and the Idaho State Medical Association at the dedication of the new Bear Lake Memorial Hospital Montpelier, March 19 The new $360 000 hospital has a bed capacity of 35

Tuberculosis Mobile Unit —The Idaho State Anti-Tuberculosis Association has purchased a mobile unit to be staffed and operated cooperatively with the Idaho Department of Public Health The unit is scheduled to be delivered July 1 An advisory committee from the Idaho Medical Association will be appointed to assist in formation of policy and over-all development of the program

Personal —Dr Frederick O Graeber of Vale Ore, has been appointed director of maternal and child health Idaho Department of Public Health, to succeed Dr Madelene M Donnelly, Boise who has resigned. Dr Graeber has been director of the Malheur County Health Department for the past 15 months He is a graduate of the University of Minnesota Medical School (1939) and received his master s degree in public health from Johns Hopkins University Baltimore.——Dr Robert S McKean of Boise is the new Idaho chairman of the Mid-Century White House Conference on Children and Youth, appointed by Governor C A Robins Dr McKean is a member of the American Academy of Pediatrics served in the navy during the war and is active in the Idaho State Medical Association

ILLINOIS

Hospital News —Carthage Memorial Hospital construction of which was begun in July 1949, will be ready to admit patients early this fall It is a beautifully designed, one story structure, with facilities for 50 patients being built at a cost of $732,568

Chicago

Dr Coulter's Books Presented to Northwestern.—One of the country's finest collections of books on physical medicine, owned by Dr John S Coulter who died in December 1949 has been presented to the Northwestern University Medical School In 1926 Dr Coulter was appointed assistant professor of physical medicine at Northwestern and became a full professor and chairman of the department in 1943 The gift will be placed in the Archibald Church Library

Professor Heads Army Hospital Reserve Unit —Lieut. Col Robert B Lewy, clinical assistant professor of otolaryngology at the University of Illinois College of Medicine and a member of the faculty since 1937 has been appointed commanding officer of the 427th General Hospital a 1,000 bed U S Army reserve unit sponsored by the university Colonel Lewy formerly served in the dual capacity of executive officer and chief of ophthalmology and otolaryngology for the hospital he succeeds Col John B Youmans The 427th General Hospital which was activated at the university in 1948, is staffed by 52 medical, dental and administrative officers and nurses

Northwestern University Alumni Reunion.—The annual Medical Faculty Alumni Reunion of Northwestern University Medical School will be held June 3 at the Furniture Club, 888 Lake Shore Drive, with a social period beginning at 5 30 p m followed by dinner at 7 o'clock Dr Thomas C Douglass vice president in charge of activities is chairman of the function Representatives of the classes of 1905, 1910, 1915 1920, 1925, 1930, 1935, 1940 and 1945 will have special tables at the dinner and members of the classes of 1895 and 1900 and this year's graduating class will be honored guests Reservations may be made through the office of the association Room 796, Montgomery Ward Building, 303 E Chicago Ave Reservations for dinner are $6 each

IOWA

County Society News —At the meeting of the Dubuque County Medical Society April 11 Dr Arthur H Conley, associate professor orthopedics and attending surgeon at the Cook County Hospital in Chicago, spoke on Fractures "

Hospital News —The construction of the million dollar 133 bed Ottumwa general hospital began March 19, to replace the present obsolete 57 bed building constructed in 1904 Hundreds of persons of the community have contributed funds to make the nonprofit hospital possible

KENTUCKY

Dr Thomas Walker State Park —The bicentennial of the entrance into Kentucky of Dr Thomas Walker and five companions is being observed the last three days of April in a celebration centering around Dr Thomas Walker State Park, near Barbourville Nineteen years ahead of Daniel Boone, Dr Walker and his companions crossed through Cumberland Gap into an unbroken forest wilderness as the first white men to set foot in Kentucky On the north bank of the Cumberland River, which they named, they erected a cabin, a replica of which now stands on the site of the 12 acre state park donated in 1931 by the Barbourville Post of the American Legion

LOUISIANA

State Medical Meeting in Baton Rouge —The Louisiana State Medical Society will hold its annual meeting at the Heidelberg Hotel in Baton Rouge April 24-26 under the presidency of Dr Edwin H Lawson, New Orleans Out of state speakers will be

Grant H Laing Chicago Systemic Nutritional Disturbances Reflected in the Mouth
J Garrott Allen, Chicago Surgical Lesions of the Colon and Rectum
Saul Hertz Boston Role of Radioactive Isotopes in Clinical Medicine
Claude G Callender Jackson Miss The Diagnosis of Ectopic Pregnancy
Edward H Ray Lexington Ky Recent Experiences with Transurethral Prostatectomy
William A Reilly Little Rock, Ark. Pediatric Endocrine Problems.

The President's Ball will be held at La Tropicana on Tuesday at 9 p m Exhibits will be shown The Woman s Auxiliary will meet in conjunction with the state association.

MINNESOTA

Mental Health Bulletin—*Mental Health Progress*, a four page bulletin of the Minnesota Department of Health and the state university, appeared March 1, to be published monthly except during July and August It will present a summary of the developments in the field of mental health Special emphasis will be placed on preventive and educational work

Low Maternal Mortality Rate—Maternity Hospital in Minneapolis has reported that it has established what is believed to be a record, 6,845 consecutive maternity cases without a maternal death The record ran between April 1930 and August 1947 During the past 13 years there were only 3 maternal deaths in 13,009 cases, a rate of 0 023 per 1,000 The national average in maternal mortality is 1 3 deaths per 1,000

Personals—Dr Charles W Mayo, professor of surgery at the Mayo Foundation and surgeon at the Mayo Clinic, Rochester, visited Tripler General Hospital in Honolulu recently Dr Mayo was a colonel in the U S Army Medical Corp during the late war and has a distinguished record of service in the South Pacific area——Edward C Kendall, Sc D, and Dr Philip S Hench both of Rochester, received bronze replicas of a printer's composing stick on April 14 at the Hotel Astor in New York City, awarded by the New York City chapter of the American Newspaper Guild for their work in the discovery and clinical application of cortisone The award is one of eleven conferred on persons in special fields for their 'contributions to social or cultural progress"——Dr Thomas B Magath, Rochester, has resigned from the State Board of Health, of which he has been president since 1940 He has been associated with the Mayo Clinic since 1919 and is now head of the division of clinical laboratories

MISSOURI

Establish Thompson Lecture—Dr Frederick G Thompson of St Joseph is being honored by a lectureship established in consideration of his 60 years of practice Dr John M Waugh, Rochester Minn, will speak May 4 on 'Indications for Surgical Treatment of Peptic Ulcer

General Practice Meeting—The Missouri Academy of General Practice will hold its annual meeting in Springfield April 27 at the Kentwood Arms Hotel Dr R B Robbins Camden Ark, speaker of the House of Delegates of the national academy will be the principal speaker at a 6 p m dinner A scientific session will be presented beginning at 2 30 p m

First Spector Lecture—The Saint Louis University School of Medicine initiated the Hyman Spector Lecture Series April 12, when Dr J Arthur Meyers of Minneapolis, spoke on Immunity and Tuberculosis—Thirty years of Observation" The series was named for the late Dr Hyman Spector, formerly assistant professor of internal medicine at the university

Dr Royston Feted—One hundred and fifty members of the medical profession attended a dinner March 1 at the Missouri Athletic Club in St Louis honoring Dr Grandison D Royston, who is retiring after 43 years as obstetrician gynecologist and teacher Dr Royston, a member of the Washington University School of Medicine faculty for 38 years, is moving to his farm near Texarkana, Ark

NEW YORK

Mental Health Commissioner Resigns—Dr Frederick MacCurdy, state commissioner of mental health since June 1943, resigned April 1 to accept an appointment from Governor Dewey as medical consultant to the New York State Citizens' Committee of One Hundred for Children and Youth The committee will work with the National White House committee in developing research and fact finding that the state will submit as its contribution to the Mid-Century White House Conference on Children and Youth, which will open December 3 in Washington, D C

New Cancer Study Center—Financed by a $435,000 grant from the U S Public Health Service a new center for cancer research, control and teaching was opened April 5 at the University of Rochester School of Medicine and Dentistry The University of Rochester Medical Center has carried on an extensive program of cancer investigation for 25 years The new cancer unit will bring closer teamwork of allied research and services, including diagnostic, consultative and therapy services, and the work with clinical radioactive isotopes for cancer therapy which will be centered in the new medical atomic energy building now nearing completion The ground floor of the new cancer center is devoted to tumor clinics and allied facilities The second floor includes a metabolism ward and laboratories One of the new research devices in the new building is a $15,000 ultracentrifuge for studies of the proteins in the human body On the third floor are laboratories of the Division of Cancer Research Other facilities include conference rooms, offices of epidemiology and statistics, private examining rooms, conference rooms and an office for social workers An important feature of the new cancer unit is its arrangements for keeping thorough records on every case

Conference on Mental Hygiene—The fourth annual Conference on Mental Hygiene and Problems of Exceptional Children will be held at Syracuse University in Syracuse May 12-13 The program will be devoted to the prevention of maladjustment. The lecturers include Stanley G Estes, Ph D, Harvard University, Boston, Dr Bela Mittelmann, New York University, David Rapaport, Ph D, Austin Riggs Foundation, Stockbridge, Mass, and Fritz Redl, Ph D, Wayne University, Detroit Saturday lecturers will be Wendell Johnson, Ph D, of the University of Iowa, Iowa City, Dr Lauretta Bender, New York University, New York, Kimball Young, Ph D, Northwestern University, Evanston, Ill, and Ralph Linton, Ph D, of Yale University, New Haven, Conn

New York State Medical Meeting—The annual meeting of the Medical Society of the State of New York will be held May 8-12 at the Hotel Statler in New York, under the presidency of Dr John J Masterson, New York Those speaking by invitation at the general sessions Wednesday and Friday afternoons include

Alfred Gilman Ph D, New York Pharmacologic Agents Which Modify Autonomic Function

Laurence H Snyder Sc D, Norman Okla., The A Walter Suiter Lecture Practical Application of Recent Advances in Genetics to Clinical Problems

Television demonstrations of operations and clinical treatments will be presented from 12 noon to 2 p m on Wednesday through Friday in the Keystone Room under the supervision of the Long Island College of Medicine and sponsored by E R Squibb & Sons, in cooperation with the Radio Corporation of America A Teaching Day for postgraduate medical education will be held May 9 In the morning rehabilitation of the chronically disabled will be discussed by Drs Alfred L Lane, Rochester, Arthur S Abramson, Bronx, and George G Deaver, Donald A Covalt and Mr Earle Daniel of New York The afternoon panel discussion will be on chronic alcoholism as a medical problem, the participants being Drs C Nelson Davis, Merion, Pa, Harry M Tiebout, Greenwich, Conn, Marvin A Block, Buffalo, James J Smith, New York, I Jay Brightman, Albany, and a co-founder of Alcoholics Anonymous Section meetings will be held Wednesday morning, all day and evening Thursday, and Friday morning Scientific and technical exhibits will be shown The annual banquet will take place in the Penn Top Wednesday at 7 p m The Woman's Auxiliary will meet May 7-8

New Medical Regulations for Boxing and Wrestling—The Medical Advisory Board of the New York State Athletic Commission has announced a new set of medical rules and regulations for boxers and wrestlers who participate under its jurisdiction A comprehensive initial medical examination is to be required prior to licensing boxers and wrestlers An examination will also be mandatory with the renewal of the license each year In addition, all contestants will be given an examination at the noon weighing-in on the day of the contest and another just prior to the bout For championship or important matches a further special examination five days before the contest will be required Injuries or illness suffered while in training for a match must be reported and followed up with appropriate medical appraisal and recommendations When any question arises as to the physical ability of a contestant to participate safely, a panel of physicians designated by the Medical Advisory Board will make the final decision after reexamination of the athlete During bouts the ringside attending physician may enter the ring between rounds to evaluate the apparent or latent injury When in his judgment the contestant is in danger of serious injury, he shall advise the referee that the contest be terminated After a knockout or in the case of severe injury the ringside physician will render emergency care and make recommendations for further treatment or hospitalization The physician may require that the participant remain in the arena after the contest long enough for necessary emergency care, observation and advice Any contestant having a severe injury not requiring hospitalization must be reexamined within a 24 hour period. Also contained in the regulations are special stipulations to be invoked after a series of losses or after severe injury or knockout to prevent cumulative injury Methods of reporting the results of examinations, the record of injuries and their treatment and, in fact, the complete participation record of the athlete are designed to provide the commission with the essential tools for determining within human limitations the fitness of contestants to take part in boxing and wrestling contests with the greatest possible degree of safety The nine man Medical Advisory Board to the state boxing commission was created by state law in 1948 (The Journal, Nov 13, 1948 page 831) Dr Frank R Ferlaino New York, is board chairman

New York City

Chest Conference—The Sixth Annual Chest Conference at St. John's Hospital in Brooklyn will be held May 18 at 8 30 p m Dr C Rollin Hanlon will speak on 'Surgery of Congenital and Acquired Heart Disease."

Lectures on Oral Surgery—Dr Theodor Blum and Lester R Cahn D D S, will lecture on A Plea for Conservatism in Oral Surgery' at the next monthly conference of the New York Institute of Clinical Oral Pathology April 24 at the New York Academy of Medicine Room 440 at 9 p m

Course in Surgical Anatomy—This course will be given at Cornell University Medical College from June 1 through June 30 Designed for candidates for the American Board of Surgery, it will consist of an intensive review of surgical anatomy with demonstrations and dissection Dr Ernest W Lampe will be in charge Tuition is $200 and registration is limited to 25 Inquiries may be directed to Office of the Dean Cornell University Medical College 1300 York Avenue New York 21

Lecture Series on Viruses—Dr Salvador E Luria associate professor of bacteriology at Indiana University Bloomington was chosen to deliver the 1950 Jesup Lectures in Schermerhorn Hall at Columbia University beginning April 10 and extending through April 24 Sponsored by the department of zoology at Columbia the Jesup Lectures were established in 1905 in honor of Morris Ketchum Jesup New York banker who died in 1908 Dr Luria a member of the Indiana faculty since 1943 received his medical degree at the University of Turin Italy and came to the United States in 1940 Previously he studied in Rome under Enrico Fermi Nobel prize winner in physics and at the Institute of Pasteur in Paris He is a specialist in the study of viruses

NORTH CAROLINA

Society News—At the annual meeting of the South Atlantic Association of Obstetricians and Gynecologists in Roanoke Va February 9-11 the following officers were elected Drs Lester A Wilson Charleston, S C president Emmett D Colvin Atlanta Ga president-elect, and John C Burwell Jr Greensboro N C secretary-treasurer The 1951 annual meeting will be held February 8-10 at the Ormond Beach Hotel and Country Club, Ormond Beach Fla

Cancer Detection Mobile—A new gastric cancer detection mobile, equipped with a Schmidt-Helm camera for photofluorography began its tour of the state s 10 clinics March 7 The mobile will stay about three months at each clinic. Two radiology consultants of Watts Hospital and Duke University, Durham will render diagnosis and refer those requiring treatment to their physicians Two years ago the state inaugurated an accelerated screening program that provides examinations of the five most common cancer sites for women over 35 and men over 40

State Medical Meeting at Pinehurst—The Medical Society of the State of North Carolina will hold its annual session at the Hotel Carolina in Pinehurst May 1-3 under the presidency of Dr G Westbrooke Murphy Asheville Guest speakers include

George F Lull Secretary and General Manager American Medical Association Chicago
Elmer Hess Erie Pa. Corporate Practice of Medicine in the Relationship of Hospitals and the Profession
J Warrwick Thomas Richmond Va Gastrointestinal and Food Allergy Diagnosis and Treatment
Eugene P Pendergrass Philadelphia Role of the Physician in the Diagnosis of Breast Carcinoma

Section meetings will be held At the president s dinner Tuesday at 7 p m Mr John McPherrin editor *American Druggist* New York, will speak on 'The British Health Scheme

OKLAHOMA

Lecture on Rheumatism.—Dr W Paul Holbrook Tucson Ariz., will address the Oklahoma Rheumatism Society on The Use of ACTH and Cortisone (Compound E)' at the Biltmore Hotel Oklahoma City, June 4 This is the day preceding the annual state meeting Dr Holbrook is now president of the National Arthritis and Rheumatism Foundation and is a former president of the American Rheumatism Association

Lectures in Tulsa.—Dr Frederick A Coller chairman department of surgery University of Michigan Medical School Ann Arbor will be the guest speaker for the Tulsa County Medical Society April 24 at the Mayo at 8 p m. He will speak on Use and Abuse of Parenteral Fluids" The Oklahoma Medical Research Foundation is sponsoring a lecture April 25 at the university auditorium at 4 p m. when Dr Harold L. Sheehan professor of pathology at the University of Liverpool England will speak on the Physiopathology of the Pituitary and Clinical Aspects of Hypopituitarism'

TEXAS

Course in Management of Pain.—Southwestern Medical School of the University of Texas Dallas will present a course in the management of pain at the Veterans Administration Hospital in McKinney May 5-7 The course is limited to 30 physicians and the registration fee is $5 Registrations close April 15

University Lectures—Col Elbert DeCoursey of the Army Medical Center Washington D C, spoke at the University of Texas Medical Branch Galveston, on April 3 on 'Medical Aspects of Atomic Radiation" Dr Sam L Clark professor of anatomy at Vanderbilt University School of Medicine Nashville, Tenn. and president of the American Anatomical Association spoke recently to the staff and students on Life Within the Brain The annual Sigma Chi Lecture at the University of Texas Medical Branch was presented April 3 by Olaf Larsell Ph D professor of anatomy at the University of Oregon Medical School Portland. Dr Larsell described the nerve supply to the lung and its biologic significance.

WEST VIRGINIA

Organize Diabetes Group—A state diabetes association will be organized during the annual meeting of the West Virginia State Medical Association at White Sulphur Springs in July when a constitution and by-laws will be presented for adoption All doctors desiring to become members are requested to write to the Diabetes Committee care of the West Virginia State Medical Association Box 1031, Charleston

Public Health Appointments—Dr Benjamin M Drake director of Rockingham-Caswell Health Department Wentworth N C has been appointed deputy health officer Dr Henry C Huntley of Adrian Mich, has been appointed director of disease control Both positions are included in the reorganization program of the state department of health approved at the 1949 sessions of the legislature Dr Drake has been in public health work since 1937 Dr Huntley began his public health work in 1942 as a health officer of Oklahoma and for the past three years has been serving as a health officer in Michigan

GENERAL

New Translation Service—A service of translation English-French specializing in medical articles has recently been created by Domus Medica at 111 East Oak Street Chicago It offers to physicians and medical societies carefully worked out translations supervised by physicians

Meeting on Mental Deficiency—The American Association on Mental Deficiency will meet at the Deshler-Wallick Hotel in Columbus Ohio May 16-20 In addition to the general sessions section meetings will be held each day Round-table breakfasts and luncheons have been scheduled

Society News—The southern Tri-State Medical Association at its meeting in Fayetteville in February installed Dr Richard B Davis of Greensboro N C as president chose Dr William R Wallace of Chester S C as president elect and re elected Dr James M Northington of Charlotte N C secretary-treasurer for his twenty-sixth term The next annual meeting will be held in Columbia S C

College Health Association—The twelfth annual meeting of the North Central section of the American College Health Association is being held at the University of Wisconsin April 21-22 with Dr John W Brown chairman of the university department of preventive medicine and director of student health and president of the association presiding Delegates are from Iowa, Minnesota North Dakota, South Dakota and Wisconsin

International Congress of Internal Medicine—This congress is to be held in Paris September 11-14 Speakers from the United States registered for the program are Drs Selman A Waksman, New Brunswick N J Byron E. Hall, Rochester Minn George W Thorn Boston Milton B Plotz Brooklyn and William J Kerr San Francisco General secretary of the International Congress of Internal Medicine is Dr L Justin-Besancon 38 Rue Barbet de Jouy Paris 7 France.

Dr Alvarez to Edit *GP*—Dr Walter C Alvarez, Rochester, Minn, has been appointed medical editor of *GP*, published by the American Academy of General Practice Dr Alvarez was selected to succeed Dr F Kenneth Albrecht, who died recently after an automobile accident He has been associated with the Mayo Clinic since 1926 Having reached retirement age at the Mayo Foundation, Dr Alvarez is moving to Chicago, where he will assume the duties of medical editor of *GP*

Appoint Chief of Liaison Office of WHO—Dr P M Kaul of India has been appointed chief of the New York Liaison Office of the World Health Organization In 1947, when he was deputy director general of health, he was loaned by the Indian Government to WHO to become director of the Singapore Epidemiologic Intelligence Station He has served as secretary of the WHO Expert Committee on Plague, the Joint Study Group on Cholera of WHO and the International Office of Public Hygiene Dr Kaul obtained his M D degree from the Medical School of the University of Punjab, did postgraduate studies at Guy's Medical School and Hospital, London, and received his training in public health at the London School of Hygiene He is a member of the British Royal College of Physicians, London

American Gynecological Society—The annual meeting of this society will be held May 11-13 at the Greenbrier, White Sulphur Springs, W Va, under the presidency of Dr Joseph L Baer, Chicago The preliminary program lists the following invited speakers

Woodward D Beacham New Orleans, La, Sickle Cell Disease and Pregnancy
David N Danforth Evanston Ill Cervical Changes During Pregnancy
Russell R de Alvarez Seattle Renal Function in Pregnancy Toxemias
J Robert Wilson Philadelphia Hysterectomy
Allan C Barnes Columbus Ohio Use of Radioactive Cobalt in Treatment of Carcinoma of Cervix
Frank R Lock Winston Salem N C, Method of Diagnosis of Functional Pelvic Disease

The guest speaker will be Dr Austin M Brues, Chicago, director of the biology division Argonne National Laboratory, Chicago, who will talk on 'The Place of Radioactive Isotopes in Therapy"

American Psychoanalytic Association—The annual meeting of this association will be held at the Hotel Statler in Detroit, April 27-30, under the presidency of Dr M Ralph Kaufman, New York Invited speakers include

Anna Freud London England Problems of Child Analysis
Richard E Renneker Chicago Pre Sleep Mechanisms of Dream Control
Thomas S Szasz Chicago Oral Mechanisms in Constipation and Diarrhea

Subjects of panel discussions on Saturday are The interaction of social and deep psychologic factors, provocation and manifestations of anxiety in schizophrenia, problems of character analysis psychoanalysis and developmental psychology

American Gastroenterological Association—This association will hold its annual meeting at the Hotel Claridge in Atlantic City, N J, April 28-29, under the presidency of Dr J Arnold Bargen, Rochester, Minn Papers being presented on invitation by a single author include

Mr Dane G Prugh Boston Influence of Emotional Factors on the Course of Ulcerative Colitis in Children
Wyman P Sloan Rochester, Minn Life Histories of Patients with Ulcerative Colitis
E Leonard Posey Jr Jackson Miss, Metabolic Derangements in Chronic Ulcerative Colitis
Karl Meyer, New York Lysozyme and Ulcerative Alimentary Disease
Miss Frances H Smith, Boston Potassium Metabolism in Gastrointestinal Problems
O Roger Hollan, Philadelphia (Research Fellowship) Site of Formation of Urobilinogen in the Intact Human Gastrointestinal Tract
Eddy D Palmer, Washington D C Error in Gastroscopic Diagnosis Consideration of Sources
John W Lindley Jr Phoenix Ariz, Atrophic Gastritis Follow Up Study of 100 Patients

The annual dinner will be held Saturday at 8 p m, when the Julius Friedenwald Medal will be presented to Dr B B Vincent Lyon, Philadelphia The dinner address will be given by Harold E Stassen, president of the University of Pennsylvania, Philadelphia, on "Freedom and Medicine"

Science Awards of the Institute of Nutrition—Three science awards were announced by the American Institute of Nutrition Conrad A Elvehjem, Sc D, chairman of the department of biochemistry at the University of Wisconsin, was selected to receive the Osborne and Mendal Award "in recognition of his contributions to our knowledge of the vitamin and amino acid requirements of experimental animals" The award, made possible by the Nutrition Foundation, is in recognition of recent basic research regarded by the institute as having greatest significance in any area of the science of nutrition Recipient of the Mead Johnson Vitamin B-Complex Award for 1950 is Dr William B Castle of Harvard Medical School, Boston, "in recognition of his classic investigations leading to the concept of intrinsic and extrinsic factors in pernicious anemia, and of his studies elucidating the relation of vitamin B_{12} to this concept" The 1950 Borden Award in Nutrition was presented to Henry C Sherman, D Sc, professor emeritus of Columbia University "for research emphasizing the nutritive importance of components of dairy products" The awards were presented at the annual meeting of the institute in Atlantic City April 19

Congress of International Congress of Psychiatry—This congress is to be held at the Sorbonne, Paris, France, September 18-27 The scientific afternoon sessions have been divided into the following sections for discussion

Psychopathology of Delusions Ferdinand Morel, Geneva, chairman, speakers P Guiraud Paris W Mayer Gross, Dumfries Scotland, E Morselli Novara Italy H C Rumke Utrecht Holland
The Application of Mental Tests to Clinical Psychiatry, Honorio Delgado Lima chairman, speakers M Bleuler Zurich, Alfredo Guera Madrid R Myssen Brussels, P Pichot Paris David Rapaport, Ph D, Stockbridge, Mass
Cerebral Anatomy and Physiology in the Light of Lobotomies and Topectomies Frederick L Golla London chairman speakers H J deBarahona Fernandes, Lisbon, Walter Freeman, Washington, D C, Alfred Meyer London
Indications of Shock Therapy Methods, Josef Handelsman, Varsovia chairman speakers U Cerletti, Rome Rysrard Dreszer, Poznam, M Fiamberti, Vareze Italy, Juan Lopez Ibor, Madrid L Meduna, Chicago, Manfred Sakel New York
Evolution and Present Trends of Psychoanalysis, Franz Alexander, Chicago chairman speakers Anna Freud London, Maurice Levine Cincinnati Raymond de Saussure, New York
Genetics and Eugenics Torsten Sjogren Stockholm, chairman, speakers Franz Kallmann New York, Lionel Penrose London J A Fraser Roberts London, Elio Slater, London, Erik Stromgren Risskov

Morning sessions will consider further the discussions of previous afternoons A series of debates will also be held The registration fee is 6,000 francs for members and 3,000 francs for associate members The general secretary is Dr Henri Ey, and the congress address is Congres International de Psychiatrie, 1, rue Dabanis, Paris 14

FOREIGN

Smallpox in Scotland—A Reuters dispatch from Glasgow, Scotland, dated April 2, reported that 22 cases of smallpox had developed in the city in four days The disease was reported brought to the city by an Indian seaman who has recovered Vaccine was flown from London and other Scottish towns, and thousands of persons waited outside clinics and hospitals for vaccination All municipal employes in Glasgow have been immunized, and 200 hospitals have been quarantined

Italian Medical Film Library—The Mario Donati Foundation for medical and surgical research has instituted a film section in connection with the Educational and Scientific Film Institute Its aims will be to countenance the diffusion and knowledge of medical and scientific cinema To this purpose it intends to (1) make a catalog of all the Italian medical films, covering the existing as well as the current production, (2) organize a medical film library to be kept at disposition of Italian and foreign scientific centers, (3) get in touch with similar foreign institutions and (4) foster and organize national and international shows of medical films The section will have its office at the Mario Donai Foundation, Milan, Via S Andrea 6

CORRECTION

Number of Internships Offered—In the Annual Report on Internships and Residencies, in THE JOURNAL, April 15, page 1145, the sentence "None the less, virtually the same number of hospitals this year offer 1,372 more internships " should read "None the less, virtually the same number of hospitals this year offer 814 more internships "

Under the list of approved residencies in internal medicine (page 1167), the Veterans Administration Hospital, Fort Howard, Md, which has been temporarily approved by the Council and the American Board of Internal Medicine, was deleted in error

Marriages

ARTHUR G SCHWARTZ, Rome, N Y, to Miss Miriam Lerman of Oneida, January 7

LEONARD E FIELD to Miss Beatrice Epstein, both of New York, March 21

LINUS W CAVE to Miss Estelle Ann Puisis, both of New Haven, Conn, February 18

JOHN GORDON HAMILTON to Miss Harriet Ann Davis, both of Rochester, N Y, February 25

JOHN POWELL ANDERSON, Louisville, Ky, to Miss Ruth Ann Van Cleve of Berea, December 19

Deaths

Harry Hamilton Lane ⊕ Medical Director Captain U S Navy, retired Newport, R I born Jan 18 1880, Jefferson Medical College of Philadelphia 1904 entered the U S Navy in 1908 while working in Panama at the Colon Hospital at Cristobal, during World War I served with the Marines in France and also served at Navy headquarters in Paris, was on a tour of duty in Haiti from 1922 to 1925 as assistant sanitary engineer for Haiti, his decorations include the Mexican Campaign Medal, Dominican Campaign Medal, World War I Victory Medal with overseas clasp and two battle clasps and the Abdon Caldron Medal, 2nd class (Ecuador), during his naval career received temporary leave on two occasions to accompany scientific expeditions to islands in the South Pacific, during that time studied tropical diseases and collected specimens for museums and scientific study in December 1933 was placed on the retired list for physical disability, died in Naval Hospital Bethesda, Md. March 10 aged 70 of arteriosclerosis and bronchopneumonia

Frederick Kenneth Albrecht ⊕ Baltimore born in Erie Pa, April 1, 1910 St. Louis University School of Medicine, 1939 member of the Medical and Chirurgical Faculty of Maryland and the American Trudeau Society entered the U S Public Health Service, serving in various localities during World War II, in 1946 went to Germany as a medical consultant to the state department resigned from the Public Health Service in 1947 and became an editor for Williams & Wilkins Company, editing their Current Medical Digest', in 1949 became director of the division of tuberculosis control Kansas State Board of Health at Topeka, editor of *GP*, author of 'Modern Management in Clinical Medicine died in the University Hospital, Ann Arbor Mich, March 8 aged 39, of pulmonary embolism with infarction as the result of an automobile accident

Harold Medoris Doolittle ⊕ Dallas Texas born in Elyria, Ohio, Aug 27 1877 University of Michigan Department of Medicine and Surgery Ann Arbor 1902 emeritus professor of surgery at the Southwestern Medical College on the faculty of Baylor University College of Medicine from 1906 until the school was moved to Houston in 1943 member of the founders group of the American Board of Surgery, fellow of the American College of Surgeons past president of the Texas Surgical Society of which he had been one of the organizers affiliated with the Dallas Medical and Surgical Clinic Hospital, where he died February 22, aged 72 of diabetes mellitus hypertension and chronic nephritis

Wenzel Matthias Wochos ⊕ Kewaunee, Wis, born in Kewaunee, Wis Aug 16 1873, College of Physicians and Surgeons of Chicago School of Medicine of the University of Illinois 1903 member of the American Association of Industrial Physicians and Surgeons for many years member of the park board and president of the high school board served as a member of the draft board during World War I and as examining physician for Selective Service during World War II formerly county physician for many years director of the Union State Bank died in St. Vincent Hospital Green Bay March 15, aged 76 of coronary occlusion

Wallace Perry Martin ⊕ Clovis N M born in Evansville, Ind., Oct 29, 1886 College of Physicians and Surgeons Los Angeles 1915, past president of the New Mexico State Medical Society and the Curry County Medical Society secretary-treasurer of the Curry-Roosevelt County Medical Society, local physician and surgeon for the Santa Fe Railroad served during World War I, colonel in the New Mexico National Guard and its state medical examiner an assistant to the state health officer, died in San Antonio, Texas, March 16, aged 63 of coronary occlusion while attending a conference.

William Alexander Arnold, Camp Hill, Pa Western Pennsylvania Medical College, Pittsburgh, 1901, died February 7, aged 80, of arterioclerotic heart disease

Carrie B Banning, Fort Wayne, Ind Cleveland University of Medicine and Surgery 1894 died in February aged 93, of cancer

August Frederick Bechtold, Belleville Ill, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1899, member of the American Medical Association, past president of St Clair County Medical Society served during World War I, for many years local examiner for the Metropolitan Life Insurance Company, examiner for the John Hancock Insurance Company for the Belleville and East St Louis areas died February 28, aged 72 of coronary occlusion.

Fowler Border, Oklahoma City Okla. St Louis College of Physicians and Surgeons 1900 for many years mayor of Mangum, died January 26 aged 73

George Russell Campbell, Augusta Maine Medical School of Maine Portland, 1895, member of the American Medical Association, for many years affiliated with Augusta General Hospital of which he had been one of the organizers and founders died February 27, aged 82 of carcinoma.

Justin Loomis Christian ⊕ Paxtang Pa. College of Physicians and Surgeons Baltimore 1890, member of the Paxtang Fire Department and Board of Health died in Harrisburg (Pa) Hospital February 27, aged 83, of carcinoma of the right parotid gland

Chelsea Austin Coleman, Dayton, Ohio, Indiana Medical College School of Medicine of Purdue University Indianapolis 1906, member of the American Urological Association fellow of the American College of Surgeons, honorary consultant in urology to the Miami Valley and Good Samaritan hospitals died in Hollywood Fla, February 13, aged 65 of coronary thrombosis

Thomas Benjamin Curran, *Victoria,* B C *Canada Rush* Medical College, Chicago 1899 honorary member of the Washington State Medical Association member of the American Medical Association killed February 27 aged 75 when he fell from the tenth story window of a hotel in Seattle.

Earl Emanuel Dale ⊕ Dwight, Ill Chicago College of Medicine and Surgery 1917 entered the service of the Army Medical Corps in 1918 1919 as first lieutenant later rose through the various ranks to that of lieutenant colonel in the medical reserve corps of the Army served in the outpatient department at the Veterans Administration Hospital in Hines and as commanding officer of the battalion at Dwight of the Veterans Hospital unit in the Fifth Corps area died March 6 aged 58 of coronary thrombosis

Arthur Charles Darrow ⊕ San Fernando Calif, Washington University School of Medicine St Louis 1936, served during World War II died February 17, aged 39, of virus pneumonia

Alletta Bedford Deming, Waterbury, Conn Cornell University Medical College, New York, 1905 served on the school board for six years died January 29 aged 69, of cancer

Charles W Dickey, Nashville, Tenn, University of Nashville Medical Department 1887 Vanderbilt University School of Medicine Nashville 1887 died February 28 aged 88

Edmund W P Downing, Franktown, Va College of Physicians and Surgeons Baltimore 1886 member of the American Medical Association died February 28 aged 89 of heart disease.

Arthur Glen Emerson, Bald Knob Ark Omaha Medical College 1901, died February 2 aged 76 of cerebral hemorrhage.

Paul William Foster, Lewisburg Tenn, Vanderbilt University School of Medicine Nashville, 1924 served during World War I died February 19, aged 55 of coronary thrombosis

Robert Brodie Gantt, Charleston S C Medical College of the State of South Carolina Charleston, 1914 served as assistant professor of urology at his alma mater, member of the American Medical Association for many years affiliated with Roper Hospital died in St Francis Xavier Infirmary February 24 aged 59 of coronary thrombosis

Edwin Lincoln Goss, Carrington N D, College of Physicians and Surgeons of Chicago, 1892 served during World War I past president of the North Dakota State Medical Association, died February 4, aged 84, of coronary thrombosis

James D Grant, Longview Texas Meharry Medical College, Nashville, Tenn, 1915, died January 27 aged 61

P William Haake ⊕ Homer, N Y Syracuse University College of Medicine, 1927 on the staff of Cortland County Hospital in Cortland, died January 11 aged 49, of myocardial infarction

Harper Taliaferro Hamner, Camp Hill Ala Vanderbilt University School of Medicine, Nashville Tenn. 1889, member of the American Medical Association died February 10, aged 83 of coronary thrombosis

Roger Holcomb ⊕ Portland Ore Rush Medical College, Chicago, 1924 member of the North Pacific Society of Internal Medicine served during World Wars I and II clinical associate at the University of Oregon Medical School on the staffs of Emanuel Hospital and the Good Samaritan Hospital, where he died February 14, aged 53, of coronary occlusion.

⊕ Indicates Fellow of the American Medical Association.

John Holst ⊕ Omaha, John A Creighton Medical College, Omaha, 1913, served during World War I, vice consul for Denmark from 1935 until his resignation on account of ill health in 1949, was knighted by King Frederick of Denmark for his services, in 1948 was made an honorary member of the Norwegian Ophthalmological Society of Oslo, died January 11, aged 64, of heart disease

William Henry Howard, Oelwein, Iowa, the Hahnemann Medical College and Hospital, Chicago, 1915, member of the American Academy of Ophthalmology and Otolaryngology, died in Knoxville February 11, aged 56, of coronary occlusion

Clarence David Jacobs, Kingstree, S C, University of Nashville (Tenn) Medical Department, 1905, member of the American Medical Association, served during World War I, died February 26, aged 73, of pulmonary interstitial fibrosis

James Arthur Jennings ⊕ St Petersburg, Fla, Bennett College of Eclectic Medicine and Surgery, Chicago, 1898, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1900, formerly practiced in Chicago, where he taught at the University of Illinois College of Medicine and Rush Medical College, member of the staff of Cook County Hospital from 1905 to 1911 and St Anthony's Hospital from 1900 to 1930, died April 13, 1949, aged 83, of carcinomatosis

Paul Hermann Krebs ⊕ Cleveland, University of Wooster Medical Department, Cleveland, 1894, served on the staff of the Lutheran Hospital, where he died February 27, aged 79, of arteriosclerotic heart disease

William W Lasley, Lewisburg, Ky, University of Louisville (Ky) Medical Department, 1885, died in Greenville February 14, aged 97, of uremia

Wililam Edward Lawhead ⊕ P A S, Lieutenant, U S Navy, retired Van Wert, Ohio, Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1907, entered the Navy in 1917 and retired March 7, 1925, past president of the Van Wert County Medical Society, served as city and county health officer, affiliated with Van Wert County Hospital, died recently, aged 63, of gastric ulcer

Donald William Leonard ⊕ Exeter, N H, Harvard Medical School, Boston, 1929, certified by the National Board of Medical Examiners, deputy medical examiner for Rockingham County, fellow of the American College of Surgeons, on the staff of the Exeter Hospital, where he died February 21 aged 46, of cerebral hemorrhage

Walter John Le Rossignol ⊕ Pomona, Calif, Gross Medical College, Denver, 1896, member of the Colorado State Medical Society, died February 9, aged 79

Raymond Francis McAloon, Massena, N Y, Albany (N Y) Medical College, 1913, member of the American Medical Association, served overseas during World War I, affiliated with Massena Memorial Hospital, died March 5, aged 61, of cerebral hemorrhage

Frank George McCarthy ⊕ Terre Haute, Ind, Indiana University School of Medicine, Indianapolis, 1909, member of the American Urological Association, died suddenly January 21, aged 68, of coronary thrombosis and hypertension

Clara Bywater McCraken, Belvidere, Ill, Bennett College of Eclectic Medicine and Surgery, Chicago, 1908, died February 22, aged 84

William Gansevoort Mack, Skaneateles, N Y, Albany (N Y) Medical College, 1900, died in the Highland Hospital, Rochester, February 22, aged 84, of acute myocardial infarction

William Henry Mars, Philadelphia, Miss, University of Nashville (Tenn) Medical Department and Vanderbilt University School of Medicine, Nashville, 1892, one of the founders and directors of the Citizens Bank of Philadelphia, died February 21, aged 82, of carcinoma

George Herbert Miller, Los Angeles, McGill University Faculty of Medicine, Montreal, Que, Canada, 1901, member of the American Medical Association, died in the Good Samaritan Hospital December 20, aged 71

Raffaele Muojo, Sea Cliff, N Y, Regia Universita di Napoli Facolta di Medicina e Chirurgia, Italy, 1896, died December 20, aged 80, of myocardial infarction and coronary sclerosis

Charles Luman Nichols ⊕ Philmont, N Y, Albany (N Y) Medical College, 1915, on the staff of Hudson City Hospital, Hudson, district school physician, died February 20, aged 56, of myocardial infarction

Eugene Pile, Ashton, Kan, Missouri Medical College, St Louis, 1883, member of the American Medical Association, died in Holton February 14, aged 89, of uremia

Eugene Olin Porter, Cincinnati, Miami Medical College, Cincinnati, 1908, member of the American Medical Association, surgeon for the Baltimore and Ohio Railroad for many years, died February 6, aged 75, of myocardial infarction

Harvey Ollis Randel ⊕ Oklahoma City, Okla, Chicago College of Medicine and Surgery, 1915, assistant professor of ophthalmology at the University of Oklahoma School of Medicine, member of the American Academy of Ophthalmology and Otolaryngology, past president of the Oklahoma Society of Ophthalmology, specialist certified by the American Board of Ophthalmology, served during World War I, on the staff of St Anthony Hospital, died February 17, aged 55, of heart disease

Clifton Reedy, Columbus, Ohio, Starling Medical College, Columbus, 1897, died January 29, aged 80, of coronary thrombosis

James Francis Roohan, Saratoga Springs, N Y, Long Island College Hospital, Brooklyn, 1912, at one time an officer in the regular army, died December 7, aged 61

Annie Stevens Rundell, Vassar, Mich, University of Michigan Department of Medicine and Surgery, Ann Arbor, 1898, died February 22, aged 82, of hypostatic pneumonia

Jacob Sachs ⊕ Brooklyn, Cornell University Medical College, New York, 1910, specialist certified by the American Board of Internal Medicine, served overseas during World War I, affiliated with Maimonides Hospital, Israel Zion Division, died in the Fort Hamilton Veterans Administration Hospital February 23, aged 61, of coronary disease

Leonard Joseph Sagal, New York, Harvard Medical School, Boston, 1945, certified by the National Board of Medical Examiners, served during World War II, formerly an intern at Mount Sinai Hospital, where he was a resident physician and where he died December 8, aged 26, of cerebral vascular accident

Dick Harold Saley, Northville, Mich, State University of Iowa College of Medicine, Iowa City, 1919, member of the American Trudeau Society, assistant medical superintendent of the William H Maybury Sanatorium, died February 28, aged 58, of heart disease and pulmonary emphysema

Orlando Frank Scott, Bellwood, Ill, Rush Medical College, Chicago, 1908, died March 22, aged 65, of coronary thrombosis

William Allen Sinton, Baltimore, University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1925, member of the American Medical Association, served during World War II, affiliated with the Hospital for Women of Maryland, Maryland General Hospital and the Union Memorial Hospital, where he died January 20, aged 49, of hypertension and cardiovascular disease

Mary E Newman Sloan, Buffalo, University of Buffalo School of Medicine, 1900, member of the American Medical Association, died February 25, aged 73, of acute myocardial infarction

George Arthur Smith, Long Hill, Conn, Johns Hopkins University School of Medicine, Baltimore, 1907, member of the American Medical Association, served on the staffs of the Bridgeport and St Vincent's hospitals in Bridgeport, died January 22, aged 70, of cerebral thrombosis

Henry Slaymaker Smith, Shorewood, Wis, Rush Medical College, Chicago, 1896, for many years medical examiner for the Northwestern Mutual Life Insurance Company, died February 17, aged 78, of carcinoma of the prostate

Rufus Goldsmith Stanbrough, Floral Park, N Y, University of the City of New York Medical Department, 1875, died December 8, aged 96, of bronchitis and myocarditis

William H Townsend, Maplewood, Mo, St Louis College of Physicians and Surgeons, 1891, member of the American Medical Association, served as president of the Bank of Maplewood, died in the Missouri Baptist Hospital, St Louis, February 24, aged 83, of cerebral thrombosis

Howard H Veon, Parkersburg, W Va, Ohio Medical University, Columbus, 1902, member of the American Medical Association, affiliated with Camden-Clark Memorial Hospital and St Joseph's Hospital, where he died February 22, aged 70, after an operation for intestinal obstruction

Herman Julius Von Lackum ⊕ Dysart, Iowa, King Eclectic Medical College, Des Moines, 1886, served for many years on the board of education, bank director, died February 3, aged 88, of arteriosclerotic heart disease

Harley Yandell, Springfield, Ill, St Louis University School of Medicine, 1911, died in Memorial Hospital February 22, aged 65, of cirrhosis of the liver and arteriosclerotic heart disease

Foreign Letters

LONDON

(From a Regular Correspondent)

March 28, 1950

Doctors in New Parliament

Ten doctors will sit in the new Parliament Six are members of the Labour Party, three are Conservatives and one Liberal-Conservative.

LABOUR MEMBERS

Dr A D D Broughton (represents Batley and Morley) is 47, served five years in the Royal Air Force and first entered Parliament in February 1949

Mr Somerville Hastings (Barking) is 71 a retired ear, nose and throat surgeon first sat in Parliament in 1923, a founder member of the Socialist Medical Association member and chairman of the London County Council (the latter for 10 years) and is now an alderman

Dr S W Jeger (Holborn and St Pancras South) is 51, is in general practice in London and has been on the London County Council since 1931 During the Spanish Civil War he visited Spain twice to give medical advice to Republicans He was a founder member of the Socialist Medical Association He was first elected to Parliament in 1945

Dr H B Morgan (Warrington) is 65 served in the 1914-1918 war and was in general practice 1921 to 1930 He has been an internist at Manor House Hospital (Trades Union) since 1931 and has held many posts in Trade Unions and the Trade Union Congress He has been a Fabian since 1904 He was in Parliament 1929 to 1931, and has served since 1940 He has been a member of the Council of the British Medical Association since 1940

Dr Barnet Stross (Stoke-on-Trent Central) is 50 and was in general practice from 1925 to 1948 He was medical adviser to the North Staffordshire Miners Federation and Pottery Workers Society of Great Britain in 1927, councillor in 1937 and later alderman of city of Stoke-on-Trent He entered Parliament in 1945 He founded the Lidice shall live organization in 1942 He was a member of the parliamentary delegation to Czechoslovakia in 1946 and was decorated by Mr Jan Masaryk in 1947

Dr Edith Summerskill (Fulham West) is 49 She served on the Middlesex County Council from 1932 to 1938 She first became a member of Parliament in 1938 Since 1945 she has been Parliamentary Secretary to the Ministry of Food. She has always been concerned with questions relating to women and children and was invited by the Spanish government to examine conditions of women and children in Spain during the Civil War She has examined public health conditions in many countries She was the only woman to go in parliamentary delegation to Australia and New Zealand in 1944 She represented Great Britain at the Food and Agriculture Organizations' Conference at Washington in 1946 and Geneva in 1947 She is one of the organizers and vice president of the Socialist Medical Association In January 1949 she became the first married woman (she has a son and daughter) to become a Privy Councillor

CONSERVATIVE MEMBERS

Dr R. F B Bennett (Gosport and Fareham) is 38 (qualified 1937) He served in the Royal Navy during the war and was twice torpedoed. He is credited with more than 500 flying hours as a pilot with Fleet Air Arm He is a psychiatrist in South Hampshire He represented England in the Olympic Games in 1936 and was on the British team which competed with Americans in 1949

Mr Walter Elliot (Kelvin-grove) qualified in 1913 (D Sc. 1923) He has an honorary degree of LL D from the universities of Aberdeen Edinburgh, Glasgow, Leeds and Manchester and a doctor of science from South Africa. He was Lord Rector of Aberdeen University 1933-1936 and is now Rector of Glasgow University Elected a fellow of the Royal Society in 1935 and a fellow of the Royal College of Physicians in 1940 He served with the Medical Corps in World War I and was awarded the Military Cross and Bar He was in Parliament 1918-1945 and has served since 1946 He became Privy Councillor in 1932 Since 1923 he has held the offices of Under-Secretary of Health for Scotland, Under-Secretary of State for Scotland, Financial Secretary to the Treasury Minister of Agriculture and Fisheries, Secretary of State for Scotland and Minister of Health He is well known through writings and broadcasting

Col Malcolm Stoddart-Scott (Ripon) is 49, he qualified in 1926 and held several intern appointments at Leeds General Infirmary He served in the Medical Corps throughout World War II and was named an Officer of the British Empire in 1945 He has been honorary Secretary to the Conservative Parliamentary Health Committee and served on standing committees dealing with national health service analgesia in childbirth nurses milk designation and others He is chairman of the British Rheumatic Association He first entered Parliament in 1945

LIBERAL CONSERVATIVE MEMBER

Dr Charles Hill (Luton) is 46 and secretary of the British Medical Association. He qualified in 1927 He was a London University extension lecturer and deputy medical officer of health for Oxford, became assistant secretary of the British Medical Association in 1932 deputy secretary in 1935 and secretary in 1944 He is a member of the Industrial Health Advisory Committee, Ministry of Labour and Secretary of the Commonwealth Medical Conference. He has been active in the World Medical Association and is now president He was formerly chairman and now is vice president of the Central Council for Health Education He has broadcast for many years regularly for the British Broadcasting Company as the "Radio Doctor and is the author of several books on health education. He enters Parliament for the first time

BELGIUM

(From a Regular Correspondent)

Liège March 4, 1950

Medicosocial Efforts at the Universities in Belgium

The Belgian Association of Social Medicine conducted a session to study the problems relating to the health of students Interesting conclusions were reached at this session concerning the efforts which the four universities of the country have made for the students in the medicosocial sphere particularly the prophylaxis of tuberculosis for students in Ghent. Since 1942 the students have been urged to submit to roentgenographic examination In the five years which followed 20 to 70 per cent of the students have been examined. Nevertheless it is difficult to draw conclusions from these examinations Some students suspected of having tuberculosis have not presented themselves for testing During the year 1948-1949 the preventive examination was used systematically and 92 per cent of those matriculated were examined (2,145 examinations) In 50 instances lesions were found among which there were about 40 cases of old or inactive lesions, there were 10 students with active tuberculosis among whom 7 were undergoing treatment and 3 had not known of their disease.

Other subjects were discussed. For example a service of free meals for students of limited means was organized at the time of the occupation, it has been successful since 1941 Twenty-six thousand meals were served in 1946 The problem of lodging also is important A social committee of the student body is actively occupied with this matter and with the acquisition of books and facilities for studies The expenses of study for a student who lives modestly are as high as 2,000 francs per month

In Ghent the students have occasion to engage in sports 20 per cent of the student population are active in competitive sports Among the female students the percentage is the same Medical supervision of sport activities exists, but it could be improved From the point of view of sports the desire for superiority is not less than at the other universities, although at Liege sports activities have been affected by the destruction of the university's institute of physical education by bombing attacks

Functional Visceral Enlargements of Nervous and Endocrine Origin

In the course of an extraordinary session of the Belgian Society of Gastroenterology in Brussels, Hillemand, Viguie and Woimant discussed functional visceral enlargements of nervous and endocrine origin The authors called attention to the concurrence of these visceral enlargements with thyroid insufficiency This association is found in drug addicts, and the disturbance does not always disappear with cure of the addiction, just as endocrine treatment does not always cause definite disappearance of disturbances caused by enlargement of an organ There are also visceral enlargements secondary to disorders of the nervous system Bensaude called attention to the disorder in postencephalitic paralysis agitans Other authors have published similar cases of paralysis agitans

The connection between the diencephalon and the hypophysis explains certain cases of visceral enlargement, and it is known that in the course of diseases of the spine, such as tuberculosis of the vertebrae, visceral enlargements are not exceptional It is necessary to reserve a place for certain transitory visceral enlargements or those which develop after certain infectious diseases and which can be attributed to an encephalitis with involvement of neurovegetative centers In order to make it possible to evaluate the frequency of visceral enlargements secondary to diseases of the central nervous system, systematic roentgenologic examination is advisable in all patients who present a diffuse involvement of this system

Occupational Therapy in Dementia

At a special meeting of the Belgian Society of Mental Hygiene, Dr Seghers stressed the therapeutic value of occupational therapy The demonstration of cases at the Bethanie Institute in Antwerp convinced the members of the society of the results obtained thereby Occupational therapy and collective gymnastic exercises or dancing were employed for patients with chronic mental illness and those with agitation, aggressiveness, impulsiveness, negativism, hallucinations and catatonia Occupational therapy is a helpful adjunct to electroshock or shock treatment with insulin or pentamethylenetetrazol and to treatment with prolonged baths and hypnotics It permits doing away with constraint and isolation in cells

Illegal Medical Practice and Charlatanism

The development of various methods of quackery, which strive to circumvent laws, has made necessary the campaign started by the Belgium Society of Legal Medicine This society has created a committee to study a motion which will be addressed to the public authorities It will insist on measures regarded as indispensable in the fight against the illegal practice of medicine At one of two sessions Hougardy took up the modern form of illegal practice and charlatanism in medicine

One of the factors which hindered the campaign against quackery is the existence of "straw men," specious physicians For dentists it has been possible to introduce into law dispositions permitting the condemnation of such persons, but when physicians are concerned there still seems to be hesitation Other aspects of charlatanism include the medicopharmaceutic advertisements, although the Belgian radio has not encouraged it, the same cannot be said for broadcasts from neighboring countries As regards the press, in spite of an effort at correction by several large newspapers, it still draws profit from advertisements for pharmaceutic products which often are of no value Intensive propaganda by testimonials of patients making claims which are as astounding as they are unjustified is conducted It is necessary to put restraint on this activity in the interest of the public as well as that of physicians

Intestinal Bilharziasis in the Belgian Congo

At a meeting of the Belgian Society of Tropical Medicine, Janssen presented the results of an investigation made during two and a half years in the Belgian Congo on schistosomiasis, which is prevalent among the workers of the gold mines, affecting more than 85 per cent of the adult population The nutritional conditions of the natives being satisfactory, he failed to reveal an insufficiency factor in the pathogenesis of the hepatic lesions which were observed Biopsies of the liver gave a better insight into the nature of the lesions, and the author concluded that in the region of Tora at the border of the Haut-Ituri (Aruwimi) more than 80 per cent of the adult population are infected with Schistosoma mansoni Two thirds of the patients have hepatomegaly

The sulfobromophthalein sodium test of the liver proved of no value as an indicator of hepatic involvement. Analysis of the blood proteins did not lead to definite conclusions Biopsies of the liver, according to the technic of Gillmann, provided evidence that the principal lesion consists of a chronic granular fatty degeneration around the ova True sclerosis is rare.

Epidemic Myalgia

A disorder which is still little understood, and the appearance of which was first reported in Virginia in 1888 under the term "devil's grip," has received attention in Belgium In 1942 L van Bogaert observed a large number of cases of epidemic myalgia in the province of Antwerp After his report to the Academy, the Health Service of Belgium alerted the medical corps of the country to the appearance of the new disease Dr Ronse published a monograph about it in *Bruxelles-medical* and indicated that epidemic myalgia is a disease characterized by painful muscular rigidity and apparently caused by a virus which attacks the meninges superficially In certain cases the muscular or subcutaneous fascia shows characteristic nodular infiltrations Sporadic cases are difficult to recognize, they appear in a latent form in various parts of the country

Domus Medicorum

Numerous members of the Medical League long have recognized the necessity of creating a national organization of Belgian physicians which would centralize all associated services With the cooperation of the professional organizations, of physicians' associations and of the laboratories of pharmaceutic products, this has become a reality The numerous speeches given on this occasion stressed that medicine has the character of a liberal profession and as such it ought to develop, and, while in specialization it becomes more scientific, it should not cease to be an art and should not become a simple technic

Professor de Beule

Professor de Beule of the faculty of medicine of Ghent died recently He was one of the most brilliant and outstanding surgeons of this faculty He was one of the first who resorted to surgical procedures on the nerves, and he presented a thesis on retrogasserian neurotomy for his doctorate

De Beule exerted a great influence on Belgian surgery in the last thirty years. One of the older surgeons, Charles Willems, said of him with complete justification that for a number of years he was a master and a leader. He successively became president of the Belgian Society of Surgery, of the Belgian Society of Gastroenterology and, finally, of the Royal Academy of Medicine.

SPAIN

(From a Regular Correspondent)

MADRID, March 3, 1950

Meeting of Society of Cardiology

The Society of Cardiology of Spain held its annual meeting Dec. 3, 1949, in Madrid. Dr. L. Pescador of Madrid spoke on pericarditis. He reviewed clinical records in 8,500 cases among which pericarditis was diagnosed clinically in 31 (0.36 per hundred cases). The incidental postmortem finding of pericardial scars in many cases is explained by the fact that a clinical diagnosis of pericarditis during the life of the patient is difficult to establish.

Experiments showed that certain reflexes originating in the visceral pericardium produce changes in the arterial blood pressure. A puncture of the visceral pericardium produces lowering of the arterial blood pressure, which does not occur if the visceral pericardium is anesthetized before puncture. Constant irritation of the visceral pericardium with iodine tincture produces permanent hypotension.

Clinically, pain is encountered in 80.6 per cent of the cases, dyspnea in 96.7 per cent, increased size of the liver in 98 per cent and an increased sedimentation rate in 100 per cent of the cases. In 4 fatal cases of pericarditis seen by the speaker, thrombosis of the veins of the right arm appeared in the course of the disease. This phenomena was previously described by Marañon.

The course of pericarditis has four main factors: inflammation, then formation of liquid, reabsorption and cure. In some cases the disease becomes cirrhotic in form and then evolves into constrictive pericarditis.

Rest, salt-free diet, mercurial diuretics, atropine and digitalis are of therapeutic value in the various stages of pericarditis. The speaker pointed out that the introduction of antibiotics into the pericardial sac is the route of selection. In 6 cases of tuberculous pericarditis he administered streptomycin. Two of the patients were in advanced stages of the disease. The treatment failed. In the remaining 4 patients, a clinical cure was rapidly obtained. The patients have been observed for more than one year. There was no recurrence in 3 of the patients. In 1 patient the recurrence was controlled by administration of streptomycin the second time and in 1 the administration of paraaminosalicyclic acid was a valuable adjuvant treatment.

There may be complete clinical cure in pericarditis. However, the speaker found that in patients clinically cured there is a systolic murmur over the pulmonary artery, which is of value for a retrospective diagnosis of pericarditis. Murmurs over the pulmonary artery have in the past been regarded as purely accidental murmurs.

When constrictive pericarditis develops, surgical treatment is necessary. The operation was successful in 1 of the 2 cases reported by the speaker.

The topic dealt with by Dr. Pescador was discussed by various cardiologists. In addition, Dr. Lozano of Sevilla spoke on constrictive chronic pericarditis, Dr. Estape of Barcelona on uremic pericarditis, Dr. Sanchez of Badajoz on spontaneous pneumopericarditis, Drs. Codina Altes and Juncadella of Barcelona on calcification of the pericardium, Dr. Bravo of San Sebastian on tuberculous pericarditis, Dr. Hernandez of Madrid on rheumatic pericarditis and Dr. Caralps of Barcelona on surgical treatment of pericarditis (film).

SWEDEN

(From a Regular Correspondent)

STOCKHOLM, March 15, 1950

Proposed Transfer of Austrian Doctors to Sweden

Austria and Sweden have approximately the same population, but, while there are about 12,000 doctors in the former, there are only about 4,500 in the latter. Last December the Swedish government decided to send a delegation of three, including Professor Lichtenstein, to Vienna and elsewhere in Austria to investigate the possibilities of large scale transfer of Austrian doctors to Sweden. This tour of inspection lasted from Jan. 10 to 23, 1950 and the report of the delegation to the Swedish government is now made public.

Much of this report is a comparative study of the medical curriculums in the two countries. It seems that the quality of the entrants to the study of medicine is more uniform in Sweden, where there are comparatively few students to each teacher and where the provision of quarters and textbooks is relatively satisfactory. In 1937 Vienna had 65 professors and "docents" in internal medicine alone. By 1939 this figure had been reduced to 19, and in 1945 it was 5. In Austria, clinical subjects are largely dealt with by lectures in "the old academic style," an exception being made with regard to the teaching of dermatology, which is carried out by demonstrations.

Sweden needs specialists in several branches of medicine, but the delegation found that Austria is at present so short of specialists that it has no surplus to export. But there is a surplus of comparatively young doctors, who are fairly well qualified according to the standard set in Sweden.

Complaints by Disgruntled Patients

The patient who feels neglected or ill treated by his doctor may appeal to a Disciplinary Committee which submits the evidence on both sides to a careful scrutiny with the help of experts in the various branches of medicine concerned. After judgment has been given, details of such cases are published from time to time in the *Journal of the Swedish Medical Association*.

Infant Welfare Centers

In 1937 the Swedish Parliament voted funds for infant welfare centers. In 1947, 87 per cent of all the country's infants had come into this scheme. Dr. Fritz Karlström of Karlstad has made a statistical study of conditions in the County of Värmland. A hospital in this county receives most of the children requiring medical treatment, and it is therefore able to provide figures showing the incidence of certain diseases as they affected children who had been in touch with infant welfare centers.

There are, of course, many pitfalls in such a comparison. Dr. Karlström has chosen the following diseases for his comparison: rickets and spasmophilia, acute diseases of the respiratory tract, acute diarrhea and anemia. In the five year period 1944-1948, a total of 23,450 babies were born in the county, and 21,789 of them were registered in an infant welfare center. The incidence of rickets and spasmophilia was ten times greater among the infants not thus registered than among those who were. A similar but less marked difference was observed with regard to the other diseases, and, when all four groups of diseases were grouped together, their frequency was four times greater among the infants not registered than among those who were. The death rate was about seven times as high among the former as among the latter. Breast feeding was twice as common among the infants attending welfare centers as among the controls.

BRAZIL

(From a Regular Correspondent)

RIO DE JANEIRO, Feb 20, 1950

Studies on Rickets in Porto Alegre

Dr Stella Budiansky, of the University of Porto Alegre department of pediatrics, reported recently the results of her studies of rickets in 295 children 5 years of age and under during 1947 and 1948 in Porto Alegre, a community of 400,000 population in Rio Grande do Sul The large majority of her cases were not of florid or major rickets, common in Europe and North America, but of discrete or minor rickets, which has been described for several years in Central and South America Rickets is scientifically and statistically significant, with respect to morbidity and mortality of very young children The 295 children were of families of poor socioeconomic status, living in a block of low rent houses administered by the Legião Brasileira de Assistencia, a semigovernmental welfare organization The children were divided into two groups, 151 children of less than 2 years of age in the first group and 144 from 2 to 5 years in the second The annual total of sunshine hours averages 2,303 in Porto Alegre (Montevideo, Uruguay, has 2,571, and Buenos Aires, Argentina, has 2,396), but in 1947 and 1948, the years during which Dr Budiansky's investigations took place, the total annual sunshine hours were 2,658 and 2,479, respectively For each child the clinical signs of rickets, radiologic changes of the bones, determinations of the bone age, statural age and blood phosphorus and phosphatase were investigated

In the 295 children, 31 cases (10 51 per cent) of clinical rickets were found, in 12 (4 07 per cent) of which there were radiologically positive observations Thirty of the 31 cases were in the first group (19 86 per cent), 11 (7 28 per cent) of which were radiologically positive The only case (0 7 per cent) of rickets in the second group was proved clinically and radiologically In these mild cases there were slight clinical, radiologic and/or humoral manifestations Even in the rare cases of the severe type of the disease, identical with those described in Europe and the United States, high phosphatase levels were not observed The highest level found in Dr Budiansky's patients was 47 5 King-Armstrong units, which occurred in the severest case with serious lesions evidenced clinically and radiologically In normal children the phosphatase level varied between 3 81 and 10 89 units There was a higher incidence of the disease in male and in Negro children, but breast-fed and syphilitic children did not show a higher incidence than bottle-fed and nonsyphilitic children The author points out that rickets, even in this mild form, is an important contributing cause of morbidity and mortality during the two year investigation 11 children died in the 0-2 year age group, 6 among the 30 rachitic children (20 0 per cent) and 5 among the 121 nonrachitic children (4 13 per cent)

Meeting of Brazilian Hematologists

The first Congress of the Brazilian Society of Hematology and Hemotherapy will be held at Rio de Janeiro on May 21-26 The organizing committee is composed of Drs W Oswaldo Cruz, Heraldo Maciel, Arthur Cavalcanti, João M Mendonça and P Clovis Junqueira, of Rio de Janeiro, Carlos Lacaz, Oswaldo Mallone, Michel A Jamra, F Ottensooner and Ruy Faria of São Paulo, Menandro Novais of Bahia, Carlos E Frimm of Rio Grande do Sul and Cortes Villela of Minas Gerais Among the subjects to be discussed at the meeting are the treatment of leukopathies, treatment of the anemias, immunohematology, medicosocial study of blood donors and preservation of blood and its derivatives Dr João M Mendonça (31 rua Mexico, Rio de Janeiro) is in charge of the Congress' office.

Social Factors and Health

The Center of Studies of Social Medicine is promoting a meeting to be held at the Academia Nacional de Medicina March 20-25, to discuss the most important social measures aiming at the protection of human health The following subjects will be presented for discussion Mixing of Human Races (Dr A Austregesilo), Juvenile Delinquency (Dr Roberto Lira), Syphilis (Dr Demetrio Peryassu), Social Factors in Tuberculosis (Dr Zey Bueno), Alcoholism (Dr Mauricio de Medeiros), Eugenics and Crime (Dr Spinosa Rothier), Social Aspects of Crime (Dr Nelson Hungria), The Human Factor in Traffic Accidents (Dr Jose Kritz), Pauperism and Undernutrition (Dr Cumplido de Sant'Anna) and City Slums (Dr C de Lacerda)

ARGENTINA

(From a Regular Correspondent)

BUENOS AIRES, March 7, 1950

New Medical Schools

The Medical School of the University of Tucuman (recently established) will open this year The University of Cuyo is planning the establishment of a medical school in Mendoza, at the foot of the highest Andes mountain There are at present in full activity, four medical schools in Argentina Buenos Aires, Cordoba, Rosario and La Plata There are no private medical schools Recently it has been stated that all university students should present at matriculation a certificate of "good behavior" granted by the federal police. This certificate is not always granted to persons who have expressed political ideas contrary to those of the national authorities

Ministry of Public Health

The Ministry of Public Health has greatly increased its organization Many new departments have been established and a great number of persons employed, with expensive budgets Persons working in government public health institutions must attend public official meetings, severe measures will be applied to those who do not attend Hygiene and educational medicine will become a branch of the Ministry of Public Health instead of the Ministry of Education

Vitamin A in Premenstrual Tension

Drs J Argonz and C Abinzano of the Endocrinological Service of the Rivadavia Hospital (under the direction of Prof E B del Castillo) have obtained successful results in 100 cases of premenstrual tension treated with vitamin A Complete relief of mastodynia was effected Abdominal pains decreased Edema, lumbar pains and nervous symptoms were not observed The improvement of mammary disturbances was remarkable A daily dose of 200,000 units is given orally during the second half of the cycle The medication must be repeated for four or five consecutive monthly periods in order to obtain a prolonged result Results are not so satisfactory with smaller doses or shorter periods

Enrique and Ricardo Finochietto Foundation

Dr Ricardo Finochietto has established a foundation in memory of his brother, Dr Enrique Finochietto, the most renowned surgeon in this country Dr Ricardo Finochietto and a large number of the most outstanding surgeons in Argentina have been trained under his direction The initial fund of the foundation is one million argentine pesos and the principal aims are to assist and stimulate the advancement of medicine in and out of the country

Personal

Dr Abelardo Irigoyen Freire, former Ministry of Sanity in the Province of Santa Fe, died recently of uremia He was 45 years old.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS *Part II* Various medical schools April 24-25 *Parts I and II* Various locations June 19 21 Final date for accepting applications is May 19 Exec. Sec. Mr E S Elwood 225 S 15th Street, Philadelphia

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY *Written* Various locations. July 21 *Oral* Philadelphia April 23 27 Chicago Oct. 8 11 Sec Dr Curtiss B Hickcox 745 Fifth Ave New York 22

AMERICAN BOARD OF INTERNAL MEDICINE *Oral* San Francisco June 21 23 The oral examinations in the subspecialties will be held at the same time and places *Written* Oct. 16 Final date for acceptance of applications is May 1 Asst. Sec Dr William A Werrell 1 West Main Street, Madison 3 Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY *Oral* Chicago June 3 Applications no longer accepted Chicago Oct 1950 Final date for filing applications is April 30 Sec Dr W J German 789 Howard Ave. New Haven Conn

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY INC. *Oral Part II* Atlantic City May 21 27 Sec Dr Paul Titus 1015 Highland Bldg Pittsburgh

AMERICAN BOARD OF ORTHOPAEDIC SURGERY *Part I* New York April 21 22 Atlanta April 28 29 Indianapolis April 28 29 Denver May 5 6 Sec Dr Harold A Sofield 122 S Michigan Ave. Chicago.

AMERICAN BOARD OF OPHTHALMOLOGY *Written* Various Centers, January 1951 Final date for filing applications is July 1 1950 *Practical.* Boston May 22 26 Chicago Oct. 2 6 West Coast, Jan 1951 Sec. Dr Edwin B Dunphy 56 Ivie Road Cape Cottage Maine.

AMERICAN BOARD OF OTOLARYNGOLOGY *Oral* San Francisco May Chicago October Sec. Dr Dean M Lierle University Hospital Iowa City

AMERICAN BOARD OF PEDIATRICS Cincinnati May 5 7 San Francisco June 30 July 2 Exec Sec. Dr John McK Mitchell 6 Cushman Road Rosemont Pa

AMERICAN BOARD OF PHYSICAL MEDICINE AND REHABILITATION *Oral and Written* Boston Aug 26-27 Final date for filing applications is April 1 Sec. Dr Robert L. Bennett 30 N Michigan Ave Chicago.

AMERICAN BOARD OF PLASTIC SURGERY *Oral* May June. Sec Dr Louis T Byars 4647 Pershing Avenue St Louis Mo.

AMERICAN BOARD OF PREVENTIVE MEDICINE AND PUBLIC HEALTH *Written* Portland Ore May 28 *Oral* Portland Ore May 29 Sec Dr E L Stebbins 615 N Wolfe St. Baltimore 5 Md

AMERICAN BOARD OF PROCTOLOGY *Part I* San Francisco Dallas Minneapolis and Philadelphia May 13 Sec Gen Dr Louis A Buie 102 110 Second Ave. S W Rochester Minn

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY San Francisco June 23 24 Applications no longer accepted. Next examination December 1950 Final date for filing applications is Sept 1

AMERICAN BOARD OF RADIOLOGY *Oral* Chicago week of June 18. Sec Dr B R Kirklin 102 10 Second Ave S W Rochester Minn.

AMERICAN BOARD OF SURGERY *Written* Various centers Oct. 25 Final date for filing applications is July 1 Sec. Dr J Stewart Rodman, 225 South 15th Street Philadelphia.

AMERICAN BOARD OF UROLOGY Chicago Feb 10-14 1951 Final date for filing applications is Sept 1 1950 Sec Dr Harry Culver 7935 Sunnyside Road Minneapolis 21

BOARDS OF MEDICAL EXAMINERS

ALABAMA *Examination* Montgomery June 27 29 Sec. Dr D G Gill, 519 Dexter Avenue, Montgomery

ARKANSAS * *Examination* Little Rock, June 8 9 Sec Dr Joe Verser Harrisburg *Homeopathic* Little Rock June and November Sec Dr Carl S Bungart 105 N 14th St. Fort Smith *Eclectic* Little Rock June 8-9 Sec Dr Clarence H Young 1415 Main Street Little Rock

CALIFORNIA *Examination Written* San Francisco June 19 22 Los Angeles Aug 21 24 Sacramento Oct. 16-19 *Examination Oral and Clinical for Foreign Medical School Graduates* San Francisco June 18 Los Angeles Aug 20 San Francisco Nov 12 *Reciprocity Oral Examination* San Francisco June 17 Los Angeles Aug 19 San Francisco Nov 11 Sec Dr Frederick N Scatena, 1020 N Street, Sacramento 14

CONNECTICUT * *Examination* Hartford July 11 12 Sec to the Board Dr Creighton Barker 160 St. Ronan St. New Haven *Homeopathic* Derby July 11 12. Sec Dr Donald A Davis 38 Elizabeth St. Derby

DELAWARE *Examination* Dover July 11 13 *Reciprocity* Dover July 20 Sec. Dr J S McDaniel 229 S State St. Dover

DISTRICT OF COLUMBIA *Examination* Washington May 8 9 Sec. Dr Daniel L Seckinger 4130 E Municipal Bldg Washington 1

FLORIDA * Jacksonville June 25 27 Sec. Dr Frank D Gray 12 N Rosalind Avenue, Orlando.

GEORGIA *Examination.* Atlanta and Augusta June. *Endorsement.* Atlanta June. Sec. Mr R. C. Coleman 111 State Capitol Atlanta 3

HAWAII *Examination* Honolulu July 10-13 Sec., Dr L L Tilden 1020 Kapiolani St Honolulu.

IDAHO Boise July 10 Sec. Mr Armand L. Bird 305 Sun Bldg Boise.

INDIANA *Examination* Indianapolis June. Sec. Dr Paul R. Tindall, 1138 K of P Bldg Indianapolis.

IOWA * *Examination* Iowa City June 12 14 Sec. Dr M A. Royal 506 Fleming Building Des Moines 19

KANSAS Kansas City June 7 8 Sec. Dr J F Hassig 905 N 7th Street, Kansas City

KENTUCKY *Examination* Louisville June 14-16 Sec. Dr Bruce Underwood 620 S 3rd Street, Louisville 2

MAINE *Examination and Reciprocity* Augusta July 11 12 Sec. Dr Adam P Leighton 192 State St Portland

MARYLAND *Examination* Baltimore June 20 23 Sec. Dr Lewis P Gundry 1215 Cathedral Street, Baltimore 1 *Homeopathic* Baltimore, June 20 21 Sec Dr John A Evans 612 W 40th St. Baltimore.

MASSACHUSETTS *Examination* Boston July 11 14 Sec. Dr George L Schadt Room 37 State House Boston 33

MISSOURI Examination St Louis May 31 June 2 and June 7 9 Exec. Sec. Mr John A Hailey Box 4 State Capitol Building St. Louis.

NEBRASKA * *Examination* Omaha June 5 7 Director Bureau of Examining Boards Mr Oscar F Humble, 1009 State Capitol Building Lincoln 9

NEVADA Carson City May 1 Sec. Dr George H Ross, 112 Curry Street Carson City

NEW HAMPSHIRE Concord Sept. 13 Sec Dr John Samuel Wheeler 107 State House Concord.

NEW JERSEY *Examination* Trenton June 20 23 Sec. Dr E. S Hallinger 28 West State Street Trenton.

NEW YORK *Examination* Albany Buffalo New York and Syracuse June 27 30 Sec. Dr Jacob L Lochner Jr 23 S Pearl St Albany

NORTH CAROLINA *Endorsement* Pinehurst May 1 *Written* Raleigh June 19 22 *Endorsement* Raleigh June 19 Sec. Dr Ivan Procter 226 Hillsboro Street, Raleigh.

NORTH DAKOTA *Examination* Grand Forks July 5 7 *Reciprocity* Grand Forks July 8 Sec Dr C. J Glaspel Grafton.

OHIO *Examination* Columbus June 14 17 Sec. Dr H M. Platter 21 W Broad St. Columbus 15

OKLAHOMA * *Examination* Oklahoma City June 7-8. Sec., Dr Clinton Gallaher 813 Braniff Building Oklahoma City

OREGON * *Endorsement* Portland April 28-29 *Written* Portland July Exec. Sec Mr Howard I Bobbitt, 609 Failing Building Portland 4

SOUTH CAROLINA *Examination.* Columbia, June 26 29 *Reciprocity* First Monday of each month. Sec. Dr N B Heyward, 1329 Blanding Street Columbia.

SOUTH DAKOTA * Sioux Falls July 18-19 Sec Dr C E Sherwood 300 First National Bank Bldg Sioux Falls

TEXAS * *Examination.* Austin June 19 21 Sec. Dr M H Crabb 1714 Medical Arts Bldg Fort Worth 2

UTAH *Examination* Salt Lake City June. Dir Dr Frank E. Lees, 324 State Capitol Building Salt Lake City

VIRGINIA *Examination.* Richmond June 23 24 *Endorsement* Richmond June 22 Sec. Dr K. D Graves 631 First St. S W Roanoke.

WISCONSIN * Milwaukee July 11 13 Sec. Dr C. A. Dawson River Falls

WYOMING *Examination* Cheyenne June 5 Sec Dr Franklin D Yoder Capitol Bldg Cheyenne.

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* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARKANSAS *Examination.* Little Rock May 9 Sec. Mr L. E. Gebauer 1002 Donaghey Building Little Rock.

CONNECTICUT *Examination* New Haven June 10 Exec. Asst State Board of Healing Arts M G Reynolds 110 Whitney Ave New Haven

FLORIDA *Examination* Gainesville June 3 Sec Mr M W Emmel University of Florida Gainesville

MICHIGAN *Examination* Detroit and Ann Arbor May 12 13 Sec. Miss Eloise LeBeau 101 N Walnut St. Lansing

NEBRASKA *Examination.* Omaha May 2 3 Director Bureau of Examining Boards Mr Oscar F Humble 1009 State Capitol Bldg Lincoln.

OREGON Portland June 17 Sec. Dr C D Byrne, University of Oregon Eugene.

RHODE ISLAND *Examination.* Providence May 10 Administrator of Professional Regulation, Mr Thomas B Casey 366 State Office Bldg Providence.

SOUTH DAKOTA Vermillion June 2-3 Sec. Dr Gregg M. Evans 310 E. 15th Street, Yankton.

Medical Motion Pictures

REVISED EDITION OF MOTION PICTURE REVIEWS NOW AVAILABLE

The Committee on Medical Motion Pictures has completed the second revised edition of the booklet entitled "Reviews of Medical Motion Pictures" This booklet now contains 225 reviews of medical and health films reviewed in THE JOURNAL to Jan 1, 1950 Each film has been indexed according to subject matter The purpose of these reviews is to provide a brief description and an evaluation of motion pictures which are available to the medical profession Each film is reviewed by competent authorities Copies are available at a cost of 25 cents from Order Department, American Medical Association, 535 North Dearborn Street, Chicago 10

FILM REVIEWS

Allergy, Immunology Diagnosis and Treatment 16 mm, color sound, showing time fifty-three minutes Directed by Leo H Criep M D Associate Professor of Medicine, Department of Immunology and Medicine, University of Pittsburgh and the Montefiore Hospital, Pittsburgh Produced in 1949 by the Medical Film Guild under a grant from Wyeth, Incorporated Philadelphia and Nepera Chemical Company Inc. Nepera Park Yonkers, N Y Procurable on loan from Wyeth, Incorporated, Film Library 1600 Arch Street, Philadelphia 3

The film discusses the immunologic principles of allergy and their application to the management of allergic manifestations It appears to be intended to cover the entire field of allergy, and the script often is dogmatic and presents but one side of controversial subjects To the student and general practitioner unfamiliar with the field, it would appear that such presentations are fact rather than theory For example, one hears the following theories and personal beliefs as expressed as finalities Histamine is the cause of the allergic reaction, the union of antigen and antibody is due to attraction of opposite electrical charges, 18 intradermal tests are done at a sitting, the tests are read in 10 minutes, and allergy (instead of heightened sensitivity) to physical agents In describing the preparation of extracts the impression given is that there is only one procedure that can be followed This is misleading, and one may seriously question the wisdom of presenting this phase of the subject in a film of this type One of the most pertinent criticisms of the film is the repeated and obvious commercial references

The film should be suitable for general practitioners and perhaps medical students, provided the audience is given sufficient explanatory data and additional information In general the photography is satisfactory Many photomicrographs are poor and consequently are not instructive The animation and narration are excellent With the exception of these criticisms, the teaching material is generally authentic and well coordinated

You Can Hear Again 16 mm, black and white, sound, showing time twenty minutes Prepared and produced in 1949 by the Department of Medicine and Surgery, Veterans Administration Procurable on loan from Chief Medical Illustration Division Research and Education Service, Veterans Administration, Washington D C

This motion picture vividly portrays, in a series of well photographed sequences, the effects on the economic and social life within a family when one of the members suffers serious impairment of hearing The extent of the services offered by government agencies to veterans, the tests used for scoring the hearing loss and the procedures used in selecting a hearing aid, teaching the patient how to use it and helping to conserve his speech are well depicted A technical difficulty arises in the attempt to suggest the loss of fidelity in the patient's hearing, unfortunately, the low fidelity of the sound-reproducing mechanism itself stands in the way of bringing out any subtle changes in the patient's perception of sound

The film as a whole has the peculiar air of propaganda The idyllic scenes in which the newcomer is welcomed with a handshake and called "Harry" would strike some audiences as misleading but must be interpreted in terms of the purpose of the film and the groups for whom it is intended It will probably be most useful for showing to deafened veterans who need to be oriented toward the program that has been set up for their rehabilitation and to hospital personnel who are being trained for participation in this work

Esophagogastrostomy for Achalasia of the Esophagus 16 mm, color, sound, showing time twenty-four minutes Prepared in 1949 by John L. Madden, M D, St Clare s Hospital Department of Surgery New York. Produced by and procurable on rental or purchase from Sturgis Grant Productions Inc. 314 East Forty Sixth Street, New York 17

This motion picture shows briefly the indications for surgical intervention in the treatment of achalasia of the esophagus, demonstrating diagrammatically the purpose of the operation. It proceeds quickly to the actual surgery in the case depicted

The left lobe of the liver is elevated and the distal esophagus is mobilized to obtain adequate exposure It demonstrates the development of the consecutive steps in the construction of the new opening between the lateral aspect of the distal esophagus and the fundus of the stomach The patient is shown postoperatively taking a light meal, which would not necessarily be conclusive that operation had accomplished an appreciable change in the swallowing function

The film is excellent in its surgical aspects There is no mention of the part played by conservative therapy in these cases, it appears to be inferred that the patient comes directly to surgery when the diagnosis has been made

This production can be recommended for state medical society meetings, general surgeons, and residents and interns on surgical services The photography and narration are excellent

Bureau of Medical Economic Research

MEDICAL ECONOMIC REVIEWS AND ABSTRACTS

Prepared by the Staff of the Bureau of Medical Economic Research

The Moral of the British Crisis By Sir Hubert Henderson. *The Review of Economics and Statistics* 31 256 (Nov) 1949

Policies of a welfare state cannot be expanded with total disregard to the economic resources and limitations of a nation. This theme was advanced in a recent article by Ffrangcon Roberts, a British physician (Where Are We Going? Medicine in a Planned Economy, *Brit M J* [March 13] 1948, reviewed in THE JOURNAL, July 30, 1949), it is noteworthy that Sir Hubert Henderson, a professor of political science at Oxford, should independently reiterate the same point while concerning himself with the present economic crisis in Great Britain

Sir Hubert's paper confines itself to a succinct statement about the British policy of handling its present financial crisis The disadvantageous balance of payments, or what is more manifest, the alarming decrease in the British gold and dollar reserves, is familiar to most readers The past war has resulted in such a destruction of British capital that the English people have found it necessary to borrow—more basically, to consume more than they produce—in order to maintain a partial semblance of their prewar living standards The optimism that was evidenced in the early part of the past year over British recovery was "ridiculously premature", the balance in international payments that seemed evident at that time hinged on temporary circumstances and the inclusion of Marshall plan aid in their computation The American "recession," popularly blamed by some as the chief source of Britain's troubles, is quickly dismissed with the following quotation from the London *Economist* "If British socialism cannot adapt itself to as minor a quaver as this, then it is too delicate for the real world" (page 256)

The pressure on the British to reduce costs in order to compete in a world market is obvious to the author With the disappearance of a sellers' market, however, a reduction in price (cost) of British goods will not necessarily mean an increased volume of sales and presumably a favorable (or less unfavorable) balance of trade. The all-important goal is the preservation of Britain's remaining dollar balance, to Sir Hubert a restriction in dollar imports is indispensable. He is likewise adamant in his view that this should be accomplished through import restrictions. The failure of the labor government to control the balance of payments is not prima-facie reason for reverting to a 'free or price system,' market to remedy the situation. Under present austerity" the demand for goods is becoming inelastic and higher prices will not be met with proportionally reduced buying and importing.

Import restrictions on the other hand will have the adverse result of aggravating the price disparity between British and American goods. The immediate remedy for this is devaluation. (Sir Hubert's article was written in July 1949 before the British devaluation in September 1949.) Devaluation however is valueless if there should result proportional increases in wages and sterling costs in Britain. In fact such rises would be inevitable unless rigid controls were exercised over wages and prices. Henderson's stand is basically sound economics, if not sound politics, the inflationary trend must be stopped if any devaluation procedures are adopted.

But why does inflation continue?

It is here that we reach what is really wrong in the economic policy that has been pursued in Great Britain in recent years. The main cause of our continuing inflation is undoubtedly in my opinion the growth of public expenditure partly on defense partly on food subsidies and partly on the expansion of social services. During the past year, the total of our budgetary expenditure on these purposes has increased at a formidable rate and it is still increasing. This in my judgment is mainly responsible for the fact that inflation still continues in Great Britain, though it has been arrested in many European countries. There has been no greater practical fallacy than the idea which has been so fashionable in Britain in recent years that the balance between expenditure and revenue is all that matters and that the counter-inflationary influence of financial policy can be reduced to terms of a simple subtraction sum' (page 258)

It is Sir Hubert's position that public expenditures even if offset through taxation are still inflationary. The taxes are "paid through reduced savings rather than reduced expenditures, persons will reduce savings before they will reduce what they customarily expect as a standard of living. The effect of taxation in curtailing demand claims Sir Hubert cannot be rated at more than a fraction of the revenue raised.

'On the other hand, the addition to the demand for goods and services resulting from an increase in budgetary expenditure must be equivalent to the greater part, probably to about three-quarters, of that increase. Expenditure on the health service, which is today perhaps the most lavish feature in our national life is peculiarly inflationary in its effect (page 258)

While the British medical scheme results in some persons paying more in taxes to support it than others, the latter will be more disposed to increase their personal expenditures than the former would be to cut theirs with the inevitable inflationary results. To this strain on Britain's limited productive resources must be added the impact on the dollar balance of such items as lenses to meet the demand for spectacles.

Increasing productivity provides, as Sir Hubert says a 'margin for new social reforms," but the social services in Britain have been expanded with such fervor as to outstrip this increment and to leave no margin to meet the expanding needs for defense.

Britain's crisis is not conditioned by its reliance on physical rather than price controls.

"Our fault is the much simpler and more serious one of persisting as a people in trying to live above our means and for this it is not administrative waste, but the pressing forward of the policy of the welfare state without regard to economic or financial limitations that is chiefly responsible' (page 260)

A postscript by the author in September 1949 states his inability to note any effort to halt the tide of inflation. The excesses are maintained in the name 'full employment' their control attempted through "appeals" and "threats" He expects further crises in the British economy.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice Resident's Liability for Negligence of Operating Surgeon. — The plaintiff sued for damages caused by the alleged malpractice of the defendant physician. From a judgment in favor of the plaintiff the defendant appealed to the district court of appeal, second district, division 1, California.

The plaintiff had been advised by Dr Percy that an enlarged gland in the axilla should be removed and examined microscopically to determine whether it was malignant. The plaintiff accepted this advice and entered the hospital signing the usual form consenting to such operations as might be 'deemed advisable or necessary' The gland was removed and sent to the hospital laboratory for an analysis. While the plaintiff was still under anesthesia the head nurse announced that the laboratory finding was carcinoma. The decision was then made—by whom it was made was a matter of dispute—to proceed at once and remove the plaintiff's right breast. This operation was performed. However, just prior to the plaintiff's removal from the operating room after completion of the operation, the laboratory announced that it had made a mistake in its diagnosis and that the laboratory then thought the condition was 'Hodgkin's disease or a possible lymphoma.'

The defendant was a resident physician at County General Hospital assigned to the surgical services of which Dr Percy (who died prior to this trial) was chief, and it was his duty to assist Dr Percy as directed. Except as assistant to Dr Percy, the defendant had no connection with plaintiff's case or her operation. Although Dr Percy had directed the defendant to perform the operation, Dr Percy himself had done a great deal of assisting and had performed certain difficult parts of the operation alone. The defendant argued that the evidence was insufficient to find him negligent. He claimed that Dr Percy was in charge of the case and, because he was assigned to assist Dr Percy in the operation, it was his duty to follow directions given him during the conduct of the operation.

The most that the record indicates said the court, is that, owing to a mistaken report emanating from the hospital laboratory and relied on by Dr Percy, who was in charge of the plaintiff's case, Dr Percy, assisted by the defendant who acted entirely under the direction of Dr Percy, removed the plaintiff's breast during the time elapsing between the erroneous carcinoma report and the later corrected report showing that such condition did not exist. This is far short of the required substantial evidence necessary to support a judgment against the defendant.

It requires no argument and no citation of authorities, continued the court, to sustain the proposition that defendant cannot be held liable for malpractice in reference to the plaintiff's operation unless there is proof of some wrongful or negligent act on his part. That a most lamentable error occurred resulting in serious injury to the plaintiff cannot be denied. Such fact, however, affords no excuse for penalizing the defendant in the absence of evidence of fault. It must be remembered that the defendant was not the surgeon in charge of the operation but a mere assistant. The record discloses no evidence that the defendant made any decision as to how soon the operation should be performed, and it is a reasonable conclusion that this matter as indeed all matters connected with the operation, were decided by the surgeon in charge, Dr Percy. Hence, assuming but not deciding that there was 'negligent haste,' such fault cannot be charged to the defendant.

In like manner any "negligent and mistaken diagnosis" the causa causans of the plaintiff's injury was a matter with which defendant had no connection whatever. The mistake in question emanated from the pathologic laboratory of the hospital which at a previous trial of the case was absolved from liability.

Judgment in favor of the plaintiff was therefore reversed.— *Valdez v Hankins 211 P (2d) 6 (Calif 1949)*

Current Medical Literature

AMERICAN

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American Heart Journal, St Louis

38 641-800 (Nov) 1949

*Calcification as Diagnostic Sign of Syphilitic Aortitis M C Thorner, R A Carter and G C Griffith —p 641

*Biomicroscopy of Conjunctival Vessels in Hypertension Capillary 'Hypertension Pattern and Occurrence of Intravascular Clumping (Sludged Blood) are Described A Lack, W Adolph W Ralston and others —p 654

Normal Unipolar Precordial and Limb Lead Electrocardiogram M Sokolow and R D Friedlander —p 665

Heart Muscle and Electrocardiogram in Coronary Disease II Difficulties of Description and Illustration of Ventricular Muscle Lesions, with Method for Their Graphic Representation in Myocardial Map J J Sayen and W I Sheldon —p 688

Occurrence of Paroxysmal Hypertension in Patients with Intermittent Claudication M K Malinow B Moia, E Otero and M Rosenbaum —p 702

Role of Anemia in Experimental Production of Heart Block and Auricular Fibrillation in Dog L Horlick and A Surtshin —p 716

Influence of Vagal Activity on Heart Block Study of Effect of Oxygen, Mecholyl and Atropine on Auriculoventricular Conduction Time A L Messer, C K Donegan and E S Orgain —p 732

Relationship of Dicumarol Absorption to Gastric Free Hydrochloric Acid S R LaTona and F LeFevre —p 743

Calcification as Diagnostic Sign of Syphilitic Aortitis —Thorner and his associates observed calcifications of the ascending aorta alone, or with calcification of the knob, with sufficient regularity in cases of syphilitic aortitis studied roentgenologically to stimulate their interest in its significance They felt that demonstration of calcification in the different portions of the aorta should be of value in the differential diagnosis of these two conditions They reviewed all cases of syphilitic aortitis that came to autopsy at the Los Angeles County General Hospital from December 1938 to July 1947 Of a total of 400 cases, roentgenograms of 122 patients taken prior to death were available for examination Eight hundred and one autopsied cases of atherosclerosis of the aorta of the same period were studied until 100 cases with available roentgenograms were collected Of the 122 cases of syphilitic aortitis, 22 showed calcification of the ascending aorta, as compared with 2 of the 100 cases of atherosclerosis of the aorta The authors were able to demonstrate the difference in sites of deposition of calcium in the thoracic aorta in syphilis and arteriosclerosis The youngest patient in the nonsyphilitic group was a 60 year old man, the average age was 72 7 years In the syphilitic group the youngest age represented was 32 years and the average age was 58 years Syphilis is usually acquired early in life, and, therefore, in spite of the fact that the average duration of the disease in patients showing calcification was 34 6 years, calcification was found earlier in life in syphilitic patients than in the arteriosclerotic group Linear calcification of the ascending aorta in patients under 60 years of age is usually due to syphilitic aortitis Calcification of the ascending aorta is evidence of late, relatively inactive syphilis Calcification of the ascending aorta is a valuable aid in the differential diagnosis of the etiology of aortic insufficiency and in distinguishing aneurysms from neoplasms

Biomicroscopy of Conjunctival Vessels in Hypertension —Lack and his co-workers feel that the role played by capillaries in hypertension has received inadequate clinical study and definition Utilizing recent advances contributed by studies of living circulation in animals, the authors found an adaptation of the basic technics applicable to patients They observed the conjunctival vessels overlying the sclera of the eye by reflecting bright parallel beams of light off the sclera The images of the conjunctival vascular tree were studied by direct microscopy An ophthalmologic slit lamp apparatus provided support for the patient's head and a maneuverable light source A compound microscope was mounted on a horizontal rack and pinion, 16 and 24 mm objectives provided safe working distances Magnifications up to 200 times were used Repeated examinations of patients made it possible to study changes in the peripheral vessels Two control series were concurrently studied a hospital group of 64 normotensive patients and a group of 50 normal adults Biomicroscopy studies were made also on 100 patients with hypertension. A "hypertension pattern" of capillary changes was noted This pattern is characterized by narrowing, elongation and looping of capillaries, which, in addition, show fixed angularities or tortuosities, tubular thickening of walls and loss of normal distensibility Ninety-eight per cent of all hypertensive patients showed significant capillary changes of this type The severity of this capillary hypertension pattern correlated directly with the rise in diastolic pressure Arteriolar pathologic changes were noted in 80 per cent of the hypertension series Nonhypertensive hospital patients showed no capillary involvement in 72 per cent Minimal changes of bizarre types were present in 28 per cent, none showed the "hypertension pattern" Intravascular clumping of red cells was noted in 96 per cent of the hypertension series and in 67 per cent of the control series These findings indicate the value of study of the capillaries in hypertension

American Journal of Ophthalmology, Chicago

32 1631-1776 (Dec) 1949

*Retrolental Fibroplasia in Premature Infants II Studies on Prophylaxis of Disease Use of Alpha Tocopheryl Acetate W C Owens and E U Owens —p 1631

Physiology of Intraocular Fluids and Its Clinical Significance S Duke Elder —p 1638

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True Psychosensory Dilation and Delayed Psychosensory Dilation of Pupil Preliminary Report N S Jaffe —p 1681

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Detachment of Anterior Layers of Iris (Iridoschisis) Report of Case J G Linn and J G Linn Jr —p 1700

Correlation of Microscopic and Slitlamp Examinations of Developing Hereditary Cataracts in Mice G K Smelser and L von Sallmann —p 1703

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Aniseikonia for Distant and Near Vision K N Ogle and W Triller —p 1719

Enucleation and Allied Procedures Part II Survey of Semiburied Implants J S Guyton —p 1725

Nonsurgical Treatment of Heterotropia R G Scobee —p 1734

Retrolental Fibroplasia in Premature Infants Use of Alphatocopherol Acetate —Owens and Owens point out that there are considerable differences of opinion as to the nature and origin of the membrane behind the lens The main reason for these differences arose from the fact that the earlier reports had been limited to examinations made when the disease was well advanced They had demonstrated that retrolental fibroplasia starts in the retina in postnatal life They describe observations on the eyes of 101 premature infants with birth weights of 1,360 Gm (3 pounds) or less, who were examined at definite intervals from the date of birth The earliest detectable change, occurring three to five weeks after birth, was a dilatation of the retinal veins and an increased tortuosity of the retinal arteries The retina became grayish-green and swollen The vitreous became cloudy, and proliferating fibrous bands extended forward from the elevated retina into the vitreous The retrolental membrane was formed by the fusion of the vitreous bands and the peripheral folds of swollen elevated retina These authors point out that the diet recommended for premature infants contains little of the fat-soluble vitamins Since a deficiency in vitamin E seemed likely alternate premature infants admitted to the Johns Hopkins Hospital were given supplements of *dl*-alphatocopherol acetate, 50 mg every eight hours In only 1 of the 23 infants who received these supplements did retrolental fibroplasia develop whereas it occurred in 17 of 78 infants who did not receive vitamin E supplements

American Journal of Surgery, New York

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*Meckel s Diverticulum Review of 39 Cases G P Schwei and A S Jackson —p 804
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Etiology of Primary Varicose Veins Histologic Study of One Hundred Saphenofemoral Junctions F B Wagner Jr and P A Herbut.—p 876
Effects of Uronic Acids Pectins and Pectinate on Enteric Flora Alone and in Combination with Antibiotic I In Vitro Studies W E Wooldrige and C W Mast —p 881
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Six Primary Carcinomas in 1 Patient. J Ettinger T B Massell and F B Wilkins —p 894
Carcinoma of Cecum in Young Man of Twenty One T F Keyes —p 898

Meckel's Diverticulum —Schwei and Jackson review 39 cases of Meckel s diverticulum operated on during the years 1915 to 1948 The condition occurred twice as often in males as in females In 17 of the patients the diverticulum was without disease in 22 it presented pathologic changes In 11 cases the diverticulum showed inflammatory changes 7 being acute or gangrenous Of these 3 diverticulums perforated and caused peritonitis Symptoms of this type resemble those of an inflamed or perforated viscus and simulate acute appendicitis or a perforated appendix There were 4 patients with intestinal obstruction. In 6 of the patients peptic ulceration was present in the diverticulum and 5 of these had clinical evidence of intestinal hemorrhage. An enterogenous cyst was found in 1 patient. There were no malignant tumors in the entire group Abdominal pain was present in all except 1 instance Resection or excision of the diverticulum was performed in 35 of the 39 cases All the patients recovered except the youngest and the oldest (aged 10 months and 72 years) The former had a gangrenous ileum the latter had generalized peritonitis A search for Meckel s diverticulum should always be made during an intra-abdominal operation, especially when the gross appearance of the organ being investigated does not fit the clinical picture.

American Practitioner, Philadelphia

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Production of Electrocardiographic Abnormalities by Suggestion Under Hypnosis Case Report. L. L Bennett and N E. Scott.—p 189
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American Review of Tuberculosis, New York

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Surgical Treatment of Recurrent and Chronic Spontaneous Pneumothorax of Nontuberculous Origin. R H Meade Jr and B B Blades —p 683
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*Physiological Effects of Pneumoperitoneum upon Respiratory Apparatus G W Wright R Place and F Princi.—p 706
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Diffuse Pulmonary Granulomatosis in Young Women Following Exposure to Beryllium Compounds in Manufacture of Radio Tubes Report of 5 Cases P Slavin —p 755
Tuberculosis Among Selective Service Registrants M Smith L. T Reynolds and M E Hand —p 773
*Fatal Tension Pneumothorax Resulting from Diaphragmatic Rupture in Patient Receiving Pneumoperitoneum S A. Yannitelli C. E. Woodruff E E Mueller and W L. Howard —p 794

Effects of Pneumoperitoneum on Respiratory Apparatus —The study by Wright, Place and Princi was undertaken in an effort to ascertain the quantitative aspect of variations in lung size consequent to pneumoperitoneum. Studies were made with patients in the erect and recumbent positions in 17 cases and in the recumbent position only in 2 additional cases It was found that pneumoperitoneum causes a considerable reduction in the functional residual air, residual air and total volume of a subject in the erect position A similar though quantitatively less decided effect is observed when the subject is studied in the recumbent position. The authors also observed the effects on the pulmonary volume and proportion of respiration performed by each lung (bronchospirometry) which were produced by adding a paralysis of the hemidiaphragm to a preexisting pneumoperitoneum A small further reduction of functional residual air and a large reduction of complementary air, together with a reduction in function by the homolateral lung resulted from the added paralysis An abdominal binder caused a slight diminution of pulmonary volume in 2 patients and a considerable diminution in a third when applied in the presence of pneumoperitoneum. The maximum breathing capacity was only slightly reduced by the induction of pneumoperitoneum The authors believe that pneumoperitoneum if fully established, is an effective method of reducing the size or state of distention of the lung It is more adequate in this respect than paralysis of the hemidiaphragm Since the modern concept of the degree of collapse desired in intrapleural pneumothorax commonly makes use of less than a 50 per cent collapse of the lung pneumoperitoneum plus recumbency is as effective in collapsing the lung as is pneumothorax unless virtually complete collapse of the lung is desired

Fatal Pneumothorax Resulting from Diaphragmatic Rupture During Pneumoperitoneum. — Yannitelli and his associates report that the induction of pneumoperitoneum in a girl aged 16 resulted in an elevation of the left hemidiaphragm a maximum of two and one-half interspaces and the right hemidiaphragm two interspaces Pneumoperitoneum refills of 1,000 to 1 500 cc of air were continued at weekly or ten day intervals, maintaining the diaphragms at the aforementioned levels After some months of this treatment and twenty days after the last refill the patient noted sudden onset of mild subscapular pain aggravated by deep respiration. She was given sedatives. Roentgenographic examination revealed partial collapse of the right lung with a small amount of fluid at the base There was displacement of the heart and trachea to the left. The roentgenogram revealed two adjacent bleblike shadows each 7 mm in diameter, projecting above the middle of the right leaf of the diaphragm. Later pneumoperitoneum refills were cautiously resumed and continued for several months On Sept. 8 1948 the patient received her usual refill of 1 300 cc. of air with initial pressures of plus 3, plus 5 and final pressures of plus 6, plus 8 Both diaphragms were well elevated. During the day of September 16 the patient was exceptionally boisterous, laughing and moving about in bed considerably At 9 30 that evening she became somewhat apprehensive and complained of right shoulder pain, for which she was given sedatives At midnight the patient appeared normal except for nervousness and mild pain Additional sedatives were given At 3 10 a m her respirations seemed more labored, and she was found dead at 3 50 a m A postmortem interpretation of the cause of death was tension pneumothorax and right-sided myocardial dilatation following rupture of the diaphragm The authors point out that the patient's diaphragm was maintained at a fairly high level for ten months before her first episode of rupture During this period the muscle fibers were apparently stretched apart sufficiently to permit a small rupture through the diaphragm, resulting in the formation of a bleb on its pleural surfaces Two other factors might possibly have played a role in precipitating the rupture of the bleb at such long intervals after the previous refills As the diaphragm descended, the relation of the bleb to the base of the right lung changed. This may have been sufficient to break a seal that had been established between these two structures Second, it appears that the coughing, laughing and boisterousness of the patient the evening before she died was an important factor in initiating the terminal episode of rupture It is probable that the bleb was ruptured by the pull or tear of already stretched adhesions during this excessive activity of the diaphragm

Annals of Allergy, Minneapolis

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Endocrinology, Springfield, Ill

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Gastroenterology, Baltimore

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*Liver Function in Chronic Alcoholic Patients II Correlation Between Elements of History and Presence of Liver Dysfunction as Indicated by Laboratory Tests W L Voegtlin, W R Broz, W E Rupper and M M Robinson —p 391
*Experimental Observations on Cardiospasm in Man S Wolf and T P Almy —p 401
Simple Explanation for Cardiospasm and Hirschsprung's Disease W C Alvarez —p 422
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Effect of Dibutoline on Motility of Stomach and Small Intestine in Man—X Ray Study F C Bone, M B Crow, D P White and J M Ruffin —p 443

Liver Function in Chronic Alcoholic Patients —The patients comprising this series studied by Voegtlin and his associates were treated at a private hospital for alcoholism Most studies on the relation of alcohol to portal cirrhosis have been done on patients with cirrhosis by determining how many were also alcoholic addicts This investigation is different in that the authors have selected known alcoholic addicts and have attempted to determine the incidence of portal cirrhosis among them An attempt was made to select certain factors in the history and symptomatology of alcoholic patients which might be of value in predicting the likelihood of hepatic dysfunction being present in any given case In this the study has been a failure, because the absence of clearcut trends and the paucity of significant statistical differences indicate that not a single factor which the authors considered was of great importance in this respect The study has shown that there is no tendency toward the presence of more serious or frequent hepatic dysfunction in those patients in the older age groups or with the longer drinking history This is taken as evidence that alcoholism does not predispose to the development of any progressive degenerative disease of the liver such as portal cirrhosis The slight tendency for less frequent and severe hepatic dysfunction to be present in periodical alcoholic addicts, as compared to steady drinkers, suggests that the characteristic type of hepatic dysfunction seen in chronic alcoholism is reversible and susceptible to improvement during the abstinent phases of the periodical alcoholic addict This again suggests that the process is not portal cirrhosis Certain symptoms seen in chronic alcoholic patients such as changes in tolerance or response to alcohol, delirium tremens or sexual impotence appear to be independent of the presence or absence of hepatic dysfunction The study indicates that ingestion of alcohol, even in excessive amounts, before, during and after an episode of acute hepatitis does not necessarily predispose the liver to serious or irreversible damage

Experimental Observations on Cardiospasm —Wolf and Almy made repeated fluoroscopic observations of swallowed barium sulfate in 14 patients with well established cardiospasm They found that the esophageal obstruction of cardiospasm was often associated with decided hypermotility of the lower two thirds of the esophagus Irregular contractile activity was noted even in the presence of moderate dilatation of the organ Only when the esophagus was widely dilated and greatly elongated was the motility absent The degree of esophageal obstruction in 9 of 14 subjects with cardiospasm could also be intensified by increase in the contractile state of the diaphragm, as in a deep breathing Exacerbations or remission of symptoms in these subjects could be correlated with periods in their lives of stress or relative security In short term experimental observations it was noted that a discussion of emotionally charged topics was associated with hypermotility and obstruction in the esophagus, while relative security and relaxation were associated with diminution or disappearance of the phenomena of cardiospasm Esophageal changes of cardiospasm in a normal subject, were induced by application of local noxious stimuli in the form of heat, cold and a chemical irritant A few among other normal subjects reacted with cardiospasm to general threats and stresses, including symbolic ones These data suggest that cardiospasm may occur as part of a biologic reaction to stress, functional and reversible in its early stages

Georgia Medical Association Journal, Atlanta

38 477-524 (Nov) 1949

Dihydrostreptomycin Its Use in Urologic Problems in General Practice J H Semans —p 477
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Iowa State Medical Society Journal, Des Moines

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Journal of Bacteriology, Baltimore

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Journal of Investigative Dermatology, Baltimore

13 309-378 (Dec) 1949

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Journal of Lab and Clinical Medicine, St. Louis

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*Parenteral Nutrition X Observations on Use of Fat Emulsion for Intravenous Nutrition in Man S W Gorens R. P Geyer L W Matthews and F J Stare.—p 1627
*Absorption and Disposition of Orally Administered I^{131} Labeled Neutral Fat in Man. M M Stanley and S J Thannhauser—p 1634
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Pancreatitis in Infectious Mononucleosis J Myhre and S Nesbitt.—p 1671
Case of Congenital Idiopathic Methemoglobinemia B Fisher and J W Price.—p 1676

Fat Emulsion in Parenteral Nutrition.—Gorens and co workers administered intravenously a fat emulsion consisting of 15 per cent coconut oil, 4 3 per cent dextrose and a combination of 0 5 per cent soybean phosphatides and 1 per cent polyglycerol esters as stabilizers to 11 patients with a variety of common ailments These ailments resulted in weight loss of such an extent that provision for adequate calories was imperative. Eight of these patients were between the ages 24 and 73 2 were 4 and 6½ years and 1 was 7 weeks old The emulsion furnished 1 600 calories per liter and was given at rates ordinarily used for administering dextrose or saline solutions Daily amounts up to 3 Gm fat per kilogram of body weight were given to adults and 6 Gm. fat per kilogram of body weight to the infant Infusion periods ranged from three to twenty-seven consecutive days The emulsion was effective as indicated by favorable clinical response, the prevention of weight loss and the maintenance of positive nitrogen and potassium balance Three patients died, 1 approximately one month after the last fat infusion 1 three months after the last infusion and the third eighteen hours after the last infusion of fat Autopsy of 2 patients showed that the fat emulsion had not produced any pathologic change, either gross or microscopic. An increase in temperature in 3 patients was observed regularly following a single administration of a certain amount of fat. These temperature rises were probably due to pyrogenic materials in the fat and not to the fat per se.

Absorption and Disposition of Oral I^{131}-Labeled Fat in Man—Stanley and Thannhauser studied the absorption and utilization of fat in 10 normal persons and in 7 patients, 2 of them with 'idiopathic" hyperlipemia and 1 with a nephrotic syndrome Characteristic curves of absorption and utilization of physiologic amounts of fat taken by mouth were demonstrated by the use of unsaturated fats iodinated with iodine 131 The proportion of the administered radioactive iodine which was collected by the thyroid and excreted in the urine, as well as the magnitude of the water-soluble portion in the serum indicated the extent of breakdown of the labeled fat Breakdown of 50 to 73 per cent of the orally administered iodinated fat took place under these conditions in the normal persons within twenty-four hours Patients with "idiopathic" hyperlipemia and the nephrotic syndrome utilized the labeled fat much more slowly

Journal of Nervous and Mental Disease, New York

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Effect of Insulin Shock Therapy on Glucose Metabolism in Schizophrenia. H F Borenz, D B Schuster and G J Downey—p 507
Mental Hygiene Clinic Its Organization and Operation M H. Adler A. F Valenstein and J J Michaels.—p 518

Topectomy—Pool and his associates removed a limited amount of cortex bilaterally from the region of Brodmann's area 9 Since this did not always seem a sufficient amount and since the caudal part of area 9 lay so close to the motor cortex, cortical removals were later confined to the rostromedial aspect of each *frontal lobe so as to include portions of areas 9 and 10* Medially, all such removals were carried down to the region of the upper or the dorsal margin of the cingulate gyri to the level of the inferior longitudinal sinus While in some cases part of the cingulate gyri and/or the frontal poles were also removed, there seemed to be little difference in the postoperative behavior in these cases and in those in which these regions had not been ablated. Hence, in the topectomy currently practiced cortical removal has been limited to the rostromedial portions of what is believed to represent Brodmann's areas 9 and 10 A further modification of technic was evolved, consisting of ligation of the major nutrient arteries to the area of the cortex The authors describe the preoperative treatment and the technic of the operation on the basis of a total of more than 95 topectomy operations There has been no operative fatality, and the usual postoperative course of the patient subjected to topectomy differed considerably from that of the patient who had undergone a standard prefrontal lobotomy The patient subjected to topectomy tended to be less depressed and disoriented, especially during the first twenty-four hours after operation However, from the second to the fifth postoperative day, and sometimes longer, the patient often displayed hostility and resentment, but these subsided so that the patient could be discharged on the tenth to fourteenth day Postoperative hemorrhage occurred in 2 cases and was successfully treated by reelevation of the operative flap and evacuation of the hematoma. Temporary urinary incontinence occurred in one third of the cases, lasting an average of ten days Retention of urine occurred in 3 cases but was not permanent. In 1 patient transitory diffuse peripheral neuritis developed The seizure incidence was 10 per cent. Operation is followed by an alteration of affective or emotional responses Rage joy and fear may still be felt, the change being that the patients do not have the same subjective intensity as they had before operation The poorer results and failures occur most often among schizophrenic patients The few neurotic patients mostly those with compulsive obsession, who were subjected to topectomy responded well Topectomy, by removal of the painful emotion in depressed patients, permits resumption of the premorbid existence. Frontal lobe operation attacks an important aspect of the illness and greatly aids the psychiatric treatment, but without adequate psychiatric treatment the remission rate falls considerably

Maine Medical Association Journal, Portland

40 345-386 (Dec.) 1949

Organization and Administration of Emergency Polio Service. F C. Curran.—p 345
Coordination Cooperation vs Polio C W Ruhlin—p 347
Clinico-Pathological Exercise Case Presented at Eastern Maine General Hospital Bangor Maine R. C Wadsworth.—p 352
Clinical Evaluation of Newer Anti Histaminic Chlor Trimeton M A Vickers and R J Barrett.—p 356
Cervicitis D Coulton.—p 358
Cysts and Sinuses of Neck. E A. Gaston and W A Albro—p 361
Carcinoma of Colon A. C Todd.—p 365
Meconium Ileus of Newborn Case Report. H F Rheinlander—p 368

Medical Annals of District of Columbia, Washington

18 619-680 (Dec) 1949

Acute Pancreatitis Review of Present Concepts as Related to 46 Cases in District of Columbia J Selby —p 619
Brief Review of Use of Adrenal Cortical Steroids and Related Substances in Treatment of Rheumatic Fever and Rheumatoid Arthritis R Liefmann and M P Schultz —p 629
Complications of Measles in Childhood Review of 60 Cases J M Lo Presti, H Ahari and W I Burdick —p 633
Simple Method for Management of Scalp Wounds I P Frohman —p 639
Histoplasmosis of Larynx Report of Case M Parke and S Burtoff —p 641

New England Journal of Medicine, Boston

241 951-992 (Dec 15) 1949

Value of Thoracoabdominal Incision in Removal of Kidney Tumors R Chute, L Soutter and W S Kerr Jr —p 951
*Syphilis in Pregnancy Clinical Study of Factors Responsible for Congenital Syphilis A Heyman and J R McCain —p 960
Thrombasthenia and Thrombocytopenic Purpura Report of Case Demonstrating Qualitative and Quantitative Inadequacy of Platelets B Alexander and G Landwehr —p 965
Acribia H J L Marriott —p 968
Vitamin Supplementation in Health and Disease P J Culver —p 970
Generalized Arteriosclerosis with Ruptured Arteriosclerotic Aneurysm of Abdominal Aorta —p 978
Choledocholithiasis Fistula, Cystic Duct to Duodenum Obstructive Biliary Cirrhosis Splenomegaly Cardiac Hypertrophy —p 981

Congenital Syphilis —According to Heyman and McCain cases of infantile congenital syphilis continue to appear in significant numbers They investigated the records of 77 women who delivered syphilitic infants at Grady Memorial Hospital in Atlanta, Ga , during the last four years Approximately a fourth of these women had negative serologic reactions for syphilis in pregnancy and had not received prenatal treatment for syphilis The majority of these patients are believed to have been in the incubation period of the disease at the time of the negative reaction or to have acquired an initial or recurrent syphilitic infection later in pregnancy The authors emphasize the importance of repeating serologic tests near term to detect syphilis acquired late in pregnancy The maternal infection almost always had existed less than five years prior to birth of the syphilitic infant An occasional patient transmitted syphilis to her child even though she had had the disease for as long as eleven years Half the women who were given prenatal treatment had received 11 to 20 injections of arsenoxide during pregnancy The authors stress the inadequacy of arsenical therapy late in pregnancy Penicillin therapy is believed to be the treatment of choice in prenatal syphilis Women should be urged to seek prenatal care early in pregnancy

New Jersey Medical Society Journal, Trenton

46 547-596 (Dec) 1949

Needle Biopsy of Liver Critical Evaluation T J White, C M Leevy, N F Kemp and others—p 549
Regional Anesthesia for Upper Abdominal Surgery N B Kornfield —p 556
*Proctosigmoidoscopic Examinations in General Practice L M Townsend —p 558
Calcification of Annulus Fibrosus S F Alexander and S Alexander —p 562
Pulmonary Heart Disease P K. Bornstein —p 565
Multiple Positive Patch Test Reactions S L Hanfling —p 568
Ringworm of Scalp M H Holland —p 570
Selection of Blood Donors T K Rathmell and E L Bowser —p 571

Proctosigmoidoscopic Examinations in General Practice —Townsend discusses routine proctosigmoidoscopic examinations in a general medical practice By far the greatest majority of patients so examined had no complaints suggestive of anorectal or colonic disease The examinations were made for the purpose of discovering asymptomatic sigmoid or rectal cancers or polyps Of the 300 patients so examined only 25 were referred by other physicians In these 25 patients the incidence of serious pathologic conditions was disproportionately high The total group probably presents a fair cross section of patients seen by a family physician These patients were not all prepared for examination by catharsis or enemas The knee-shoulder position was used The aim was to determine the amount and type of pathologic lesions that may be detected without special preparation of the patient Two hundred and eighty-five examinations were considered complete Seven patients were found with malignant or premalignant lesions, a short history of each case is given

North Carolina Medical Journal, Winston-Salem

10 625-682 (Dec) 1949

SYMPOSIUM ON TOXEMIA OF PREGNANCY

Prenatal Care in Rural Area F Fuller —p 625
Management of Hypertensive Cardiovascular and Renal Disease in Pregnancy M I Griffith —p 627
Management of Eclampsia J C Burwell Jr —p 630
Drug Therapy for Asthmatic Children S C Dees —p 634
Management of Vomiting in Acute Infections Without Use of Parenteral Fluids A H Pate —p 638
Diagnosis and Management of Jaundice in General Practice W H Flythe —p 640
Tests for Urinary Sodium Chloride W B Burwell —p 645
Improved Instruments for Diagnosis of Pelvic Lesions by Hysterogram and Water Hysteroscope W B Norment.—p 646
Blastomycosis Complicating Boeck's Sarcoid Report of Case J S Hiatt Jr and T N Lide —p 650

Plastic and Reconstructive Surgery, Baltimore

4 489-582 (Nov) 1949

Repair of Bilateral Cleft Lip W C Huffman and D M Lierle —p 489
*Successful Homotransplantation of Skin from Parents to Son J E Kearns Jr and S E Reid —p 502
Complete Avulsion of Skin of Penis and Scrotum, Surgical, Endocrinological and Psychological Treatment. H Baxter, M Hoffman E Smith and K Stern —p 508
Nasopharyngeal Stenosis Correction by Transposed Flaps H S Vaughan —p 522
Cancer of Face Treatment and Plastic Repair G B New —p 526
Use of Removable Acrylic Prosthesis to Retain Mandibular Fragments and Adjacent Soft Tissues in Normal Position After Surgical Resection G E Ward R. S Williamson Jr and J O Robben —p 537
Utilization of Tube Pedicle in Reconstruction of Facial Defects C F Steiss —p 545
Use of Dorsal Skin Flap for Coverage of Palmar Defects After Aponeurectomy for Dupuytren's Contracture. J M Bruner —p 559

Successful Transplantation of Skin from Parents to Son —Kearns and Reid present the case of a boy, aged 9, who had extensive, chronically infected burns which had been unsuccessfully treated with autografts Split thickness skin grafts were transferred from each parent to the boy Even though two grafts were successfully applied from each donor, there was no evidence of anaphylactoid response Anemia and hypoproteinemia were treated before operation Chronic infection was combated by local application of antibiotics Thorough and deep debridement of the recipient site was achieved by local application of 80 per cent silver nitrate at operation, followed by excision or curettage of the eschar thus formed down to the uninfected layers below Grafts were prepared by saturation with plasma and applied after application of thrombin solution to the debrided recipient sites

Psychosomatic Medicine, New York

11 187-248 (July-Aug) 1949

Psychiatric Aspects of Vagotomy II Psychiatric Study of Vagotomized Ulcer Patients with Comments on Prognosis T S Szasz —p 187
Physiologic and Psychologic Interrelationships in Diabetes in Children H Bruch —p 200
Emotional Factors in Precipitation of Recurrent Diabetic Acidosis H Rosen and T Lidz —p 211
Anthropology and Psychosomatics J Henry—p 216
Life Situations Emotions, and Bronchial Mucus I P Stevenson and H G Wolff —p 223
Motor Attitudes and Psychotherapy E Ascher —p 228
The Infant in the Adult Induced Regression in Therapy of Psychogenic Gastrointestinal Disorder Case Report L T Maholick —p 235

South Carolina Medical Assn Journal, Florence

45 359-394 (Dec) 1949

Echinococcus Infection Report of Case in Immigrant in South Carolina W C Hollifield and R Wilson Jr —p 359
Recent Advances in Diagnosis and Treatment of Rheumatic Fever W Weston Jr —p 362
Prolapse of Meckel's Diverticulum with Intussusception Report of Case A J Katzberg —p 366
Public Health Problems of Hookworm Disease in South Carolina J H Arnold —p 367

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted Single case reports and trials of new drugs are usually omitted

British Medical Journal, London

2 1307-1366 (Dec 10) 1949

Can a Scientific Society Be Stable? B Russell —p 1307
Visceral Actinomycosis A Z Cope —p 1311
Vagotomy for Peptic Ulcer Indications and Result L M Orr and H. D Johnson —p 1316
Use of Procaine Penicillin with Aluminium Monostearate in Adults E J Wanbe J Colquhoun and J Burke —1319
Herpes Zoster After Irradiation I Ellis and B A Stoll —p 1323
Male Subfertility Interim Report of 3 182 Cases H A Davidson —p 1328
Thumb Reconstruction by Transfer of Big Toe I Clarkson and R Furlong —p 1332

Vagotomy for Peptic Ulcer—Orr and Johnson present observations on 215 patients subjected to vagotomy over the last five years The percentage of failures among the early cases was high but as the technic improved the proportion of incomplete vagotomies decreased as did the proportion of failures During the second and third years close follow-ups revealed the limitations of vagus resection in the treatment of duodenal ulcer, and some of the complications of vagotomy were recognized The observations made in this second period showed that complete vagotomy resulted in a considerable fall in free acid and that the low acid level was maintained but it also showed that in spite of the fall in free acid level, 25 per cent of the patients continued to complain of ulcer symptoms or had a recurrence after an initial period of well-being Furthermore, while 75 per cent of the patients who had undergone vagotomy remained free from ulcer symptoms certain unpleasant side effects appeared. During the third and fourth years of study an analysis of results suggested that some of those who had been subjected to vagotomy were unsuitable subjects and that others presented too complicated a picture to be dealt with adequately by vagotomy alone and combined operations were undertaken such as vagotomy plus gastric resection or gastroenterostomy The remaining period has confirmed that early uncomplicated cases of duodenal ulcer associated with high interdigestive secretion of free acid may obtain lasting benefit from vagotomy alone For patients with a history of hemorrhage perforation scarring or deep crater formation more radical operations are indicated The results of the combined operations have been gratifying

Herpes Zoster After Irradiation—Ellis and Stoll review observations on 45 patients in all of whom herpes zoster developed after irradiation Thirty nine of these had malignant disease (including 24 with carcinoma of the breast) and 6 had nonmalignant disease The analysis of these cases shows maximal incidence of zoster at the level of the neoplasm and thus of the site of irradiation, involvement by the zoster of either the same or to a lesser extent the side of the body opposite to that irradiated a maximal incidence of zoster between three and six months following the treatment with a gradually diminishing incidence up to two years The authors believe that the time relationship between the development of the zoster and the previous irradiation provides strong evidence that irradiation is implicated as a causative factor in zoster Late irradiation reactions in all parts of the body associated with the relative ischemia and fibrosis which follow endothelial proliferation usually tend to develop at an interval of three to six months after treatment A delayed vascular deficiency and gliosis in the spinal root ganglion or delayed fibrosis in the skin with involvement of the nerve endings might cause activation of a latent zoster virus Regarding the question as to how the irradiation may be concerned in the etiology of herpes the authors mention that the skin area (and thus the cutaneous nerves also) corresponding to the level involved by zoster later had in the majority of cases been irradiated It is suggested that zoster may result either from a systemic mechanism following the release of substances set free by irradiation or possibly from an effect on the cord through the afferent nerves of the irradiated area Herpes zoster is relatively rare after roentgen treatment even in a large group of cases of carcinoma of the breast treated postoperatively with roentgen rays the number developing zoster is small Immunity conferred by a previous attack of zoster or varicella may partly explain this Previous attempts to correlate zoster with cancer or reticulosis have been based on the hypothesis that the zoster was due to infiltration by the underlying disease of the spinal ganglions or other parts of the afferent nervous reflex arc No other authors seem to have correlated the incidence of zoster with the administration of roentgen rays in cases when such infiltration was absent

Irish Journal of Medical Science, Dublin

287 787-834 (Nov) 1949

Biological Interlinkage of Acid Alkali Formation with Ion Transport and Synthetic Reduction E J Conway —p 787
Redox Theory of Hydrochloric Acid Production by Gastric Mucosa E J Conway —p 801
Choice of Anaesthetic for Caesarean Section R W Shaw —p 805
Spontaneous Haematoma of Rectus Abdominis Muscle F J Morrin —p 815
Effect of Blood Glucose Concentration on Alkaline Haematin Method of Haemoglobin Estimation J D Kennedy and T Rea.—p 821
Calcification of Placenta E Solomons —p 823

Journal Obst. & Gynaec of Brit Empire, Manchester

56 741-948 (Oct) 1949 Partial Index

*Rh Immunization in Pregnancy J Murray and M Taylor —p 741
Stromatous Endometriosis Report of 5 Cases W W Park —p 755
*Nature of Stromatous Endometriosis W W Park —p 759
Convulsive Seizures Questionably Eclamptic, Diagnosed Solely by Placental Examination (Case Report) S R Poliakoff and R A Bartholomew —p 777
Bipartite Placenta with Report of Case W H Carlisle —p 779
Primary Uterine Inertia. D J MacRae —p 785
Repair of Placental Site in Rabbit M M Bull —p 799
Report on Series of 129 Cases of Cancer of Corpus Uteri G Dearnley —p 819
Oxytocic Drugs in Third Stage of Labour D A F Shaw —p 833
Treatment of Contraction Ring Dystocia W C Mills —p 838
Essay on Physiology of Third Stage of Labour J R C Burton Brown —p 847
Factors Determining the Size of the Newborn H H Knaus —p 856
Myasthenia Gravis Complicating Pregnancy A Gunn and B W Sanderson —p 868

Rh Immunization in Pregnancy—Murray and Taylor believe that it should be increasingly possible to make a provisional prognosis and plan of management of cases during pregnancy instead of awaiting the birth of the baby They report observations on 64 cases of isoimmunization All patients attending the hospital s antenatal department had blood withdrawn on their first visit for Wassermann and Rh testing The serum of those found to be Rh negative was tested for antibodies The blood of the husband of every Rh-negative woman was tested for the presence of antigen D but only when the mother had an antibody in her serum was the husband s blood genotyped. Cord blood of the infants of all Rh negative women was tested for sensitization of cells and the presence of antigen D In cases in which an antibody had been found during pregnancy, hemoglobin estimations red cell, nucleated cell and differential counts were also done on capillary blood taken from the babies immediately after birth The presence of an antibody throughout pregnancy was as indicative of an unfavorable prognosis as a previous history of hemolytic disease It was concluded that the findings of an antibody within the first four months of pregnancy indicates previous immunization Antibodies should be tested for between 8 and 12 weeks, at 30 weeks and at 36 weeks Labor should be induced at about 36 weeks when antibodies are present Exchange transfusion of the Rh positive baby should be undertaken when anemia is present when there is a previous history of affected babies or when an antibody has been present for more than four weeks

Stromatous Endometriosis—Park believes that the published accounts of so called stromatous endometriosis of the uterus demonstrate that its macroscopic and microscopic features are distinctive enough for it to be accepted as a pathologic entity The cases so far reported total about 50 Park discusses the aspects of this condition which occurs most frequently during the second half of the reproductive period Examination of microscopic sections has led to the conclusion that the lesion is not necessarily derived from the endometrial stroma but that it may arise at one or many points within the wall of the uterus It was assumed that adenomyosis may also be a tissue malformation of in situ development Adenomyosis, stromatous endometriosis," carcinosarcoma of the uterus, the mixed mesodermal tumors and some other unusual tumors of the uterus may be grouped together as conditions which cannot be fitted satisfactorily into current classifications of uterine pathology The suggestion has been made that they are related maldevelopments of tissue The author feels that there is no need to define stromatous endometriosis as either malignant or nonmalignant Similarly a rigid name for the neoplasm is not essential "Stromatous endometriosis" is so misleading that it might well be dropped "Stromatoid new growth of the uterine wall" is perhaps the best term, but it is cumbersome "Stromatoid mural sarcoma" might be more convenient In 5 of the 43 cases reviewed the patient died as the direct result of recurrence and local spread of the neoplasm

Journal of Tropical Medicine and Hygiene, London

52 243-264 (Dec) 1949

Splenectomy in Treatment of Kala Azar L L Napier —p 243
Tropical Phlebitis and Its Relation to Myositis Tropica M Gelfand —p 248
Tuberculous Lymphadenitis in Nigerian Children D B Jelliffe —p 251

Lancet, London

2 1067-1114 (Dec 10) 1949

Survey of Physical Fitness in Ceylon H Cullumbine —p 1067
Influence of Heart Rate on Cardiac Output Studies with Digoxin and Atropine H G Kelly and R I S Bayliss —p 1071
Source of 2 Hospital Infected Cases of Tetanus S Sevitt —p 1075
Non Traumatic Thrombosis of Carotid Artery N O Ameli and D W Ashby —p 1078
Seasonal Variations in Thyrotoxicosis M E Morgans and W R Trotter —p 1083
*Electric Blanket Treatment of Rheumatoid Arthritis E Frankel —p 1084
Q Fever Report of Case W G Manderson —p 1085

Heart Rate and Cardiac Output Effect of Digoxin and Atropine —Kelly and Bayliss found that when digoxin is given in cardiac failure the rise in cardiac output is as pronounced in patients with sinus rhythm as in those with auricular fibrillation There is no relation between the degree of slowing and the increase in cardiac output Relief of venous congestion is also independent of the degree of slowing Improvement in cardiac output is equally probable whether the initial ventricular rate is slow or fast In normal hearts atropine acceleration is accompanied with a fall in right auricular pressure and a rise in cardiac output Patients with heart disease showed essentially similar responses There was no evidence that acceleration so induced either depressed cardiac output or increased venous congestion Given after digoxin in fibrillating hearts, atropine can reverse the slowing effect without counteracting either the rise in cardiac output or the fall in venous pressure caused by digoxin Similarly in patients with sinus rhythm atropine acceleration has no adverse effect on cardiac output or venous pressure after digitalization The presence or absence of cardiac slowing plays no measurable part in producing the immediate hemodynamic improvements following digitalization

Hospital-Infected Cases of Tetanus —Sevitt cites his tories of 2 patients who had tetanus after surgical treatment in the same hospital One patient died, the other recovered Discussing the probable source of these tetanus infections, the author says that building repairs were being done on part of the operating room suite and here animal hair was being mixed with plaster powder The hair gave a heavy growth of various strains of anaerobic sporing bacilli, including toxigenic strains of Clostridium tetani This plaster hair is considered to have been the original source of the tetanus infection Toxigenic strains of tetanus and other anaerobic sporing bacteria were isolated from the dust or floor sweepings of various parts of the operating room suite and from specimens of talc This is thought to have been the result of dissemination of spore-containing dust originally contaminated from the plaster hair The dissemination was probably brought about by cross currents of air in the operating room and these were produced by exhaust ventilation in the operating room suite Clostridial strains including toxigenic Cl tetani were isolated from talc autoclaved at 20 pounds pressure This imperfect sterilization was considered to have arisen from the tight packing of the powder packets in the sterilizing drum The contaminated talc (glove powder) was probably the final vehicle whereby tetanus spores reached the patients' wounds The author makes recommendations on ventilation systems for operating rooms and on the sterilization of talc

Seasonal Variations in Thyrotoxicosis —Morgans and Trotter found in a group of patients who were treated with methyl thiouracil and who were under close observation through out the year that exacerbations of thyrotoxicosis were most frequent in spring and least frequent in autumn This may be a direct effect of changes in the duration of daylight or an indirect effect of variations in the amount of goitrogenic substances in the diet The authors point out that in normal persons basal metabolism tends to reach a peak during spring This may indicate a springtime increase in thyroid activity

Electric Blanket for Treatment of Rheumatoid Arthritis —Frankel used an electric blanket as a means of applying heat for long periods and thus produce sustained vasodilatation The patient s feet, legs and pelvis are well protected with sheets of cotton-wool wrapped about the limbs and body The electric blanket is next wrapped about the lower half of the patient s body and kept in position with bandages The blanket is left in position for several weeks, and the patient is taken out of it only for toilet purposes The temperature between the cotton wool and the skin is taken every four hours and is kept at 110 to 115 F This type of application of heat produces vasodilatation with pronounced sweating The resulting loss of fluid and salt is made up by additional intake The fluid intake and output and the amount of chloride excreted are recorded The patients tolerate this treatment well They perspire profusely There is slight pyrexia, the temperature varying between 99 and 100 F, and the pulse-rate is slightly increased The patients find the blanket treatment comforting and are definite about the loss of pain and improvement in the stiffness and increase in the range of movement of the affected joints In the last eighteen months 14 patients have been treated There was striking improvement in every case Although improvement appears to have been maintained, it is impossible to say whether further relapses may occur

Acta Endocrinologica, Copenhagen

3 1-104 (No 1) 1949 Partial Index

Antagonism Between Adrenotropic Hormone of Hypophysis and Sex Hormones H Hase and L Schindel —p 27
*Effects of Pituitary Adrenocorticotropic Hormone (ACTH) in Case of Chronic Rheumatoid Arthritis K Brøchner Mortensen, J Georg C Hamburger and others —p 39
Effect of Desoxycorticosterone Acetate (DCA) and Sodium Chloride on Blood Pressure and Renal Function R Luft and B Sjögren.—p 56
Synthetic Oestrogenic Substances Comparative Study on Their Effectiveness in Women A B V Ryden —p 71

Pituitary Adrenocorticotropic Hormone (ACTH) in Chronic Rheumatoid Arthritis —Brøchner-Mortensen and his collaborators say that as soon as the reports of the effects of Kendall's Compound E and of pituitary adrenocorticotropic hormone (ACTH) in cases of chronic rheumatoid arthritis had reached Denmark, they decided to try the treatment in suitable cases Although it proved impossible to obtain the preparations from the United States, the authors received from Sweden an ACTH preparation derived from hogs, in an amount sufficient for their first experiments A woman, aged 53, who had had severe chronic rheumatoid arthritis for 14 years was treated with daily intramuscular injections of ACTH The doses were gradually increased from 25 mg to 100 mg After two injections of 100 mg the dose was diminished to 75 mg, which was given for five days, she then received 50 mg daily for four days and finally one injection of 25 mg Altogether she received 950 mg in the course of fifteen days The clinical effects closely resembled those reported by other investigators The articular swellings, pain and tenderness on motion rapidly diminished The articular and muscular functions were improved She could get out of bed, walk without pain and climb stairs unaided Her appetite improved, and she experienced a feeling of well-being The blood sedimentation rate decreased, and the total plasma protein decreased, because of a diminution of the gamma globulins There was a negative nitrogen balance and an increase in the uric acid concentration in the serum Hyperglycemia and glycosuria occurred The serum potassium and sodium decreased. The number of circulating eosinophils decreased The urinary excretion of 17-ketosteroids, reducing corticoids and glucocorticoids increased six to 15 times A few days after discontinuation of the treatment the symptoms of the disease reappeared and the laboratory findings were the same as those prior to treatment Subsequent treatment with testosterone propionate for fourteen days resulted only in an increased output of 17 ketosteroids

Athena, Rome

15 105-136 (Sept.-Oct.) 1949 **Partial Index**

Antagonists of Folic Acid (Pteroylglutamic Acid) J Messerschmitt —p 105

Antagonists of Folic Acid (Pteroylglutamic Acid) — Messerschmitt reports on the mode of action of biologic antagonists, Woods' substitution theory or inhibition by competition, inhibitory index, reversible action of the metabolite antagonist pair and its limitations, chemistry of folic acid and related compounds, their activity and toxicity There is no known structural modification of a metabolite which will originate an antagonist. Not all the compounds of analogous structure have an antagonistic action, some possess biologic activity and others have none. The safety margin is narrow Doses vary with each product. Their actual toxicity does not allow prolonged treatment at the present time. The author reviewed experiments with folic acid antagonists on strains of bacteria which require folic acid as a growth factor on chicks which were carriers of Rous sarcoma. He reports on the therapeutic utilization of folic acid antagonists, especially 4-aminopteroylglutamic acid in the treatment of acute leukemia, chronic leukemia and some neoplasias Neoplastic cells proved more sensitive to lack of folic acid and to the antagonists than normal cells Remissions were more or less complete, sometimes dramatic. White cell count, red cells and the number of platelets became normal Bone marrow changes were less pronounced than those in the peripheral blood. He advocates the use of those folic acid antagonists which do not produce a sharp and immediate folic acid deficiency Chemotherapy appears to be useful in the treatment of leukemia and cancer

Medicina, Buenos Aires

9 317-398 (Oct.) 1949 **Partial Index**

Suture and Homotransplant of Aorta I. Technic Immediate and Late Results II Anatomic Study A. Lanari and O Croxatto —p 317
*Changes of Volume of Blood After Thoracolumbar Sympathectomy (Smithwick's) in Hypertension. A. C Taquini and A. Villamil. —p 352

Suture and Homotransplant of Aorta —Lanari and Croxatto experimented on dogs, in two different groups (1) those in which the aorta was sutured, after having been sectioned, and (2) those in which a segment of the aorta of another dog was grafted. When suture was performed, circulation was maintained without any interruption, whereas when a graft was used, circulation was interrupted. The authors describe in detail the technic used for suturing the two cut ends of the thoracic aorta, without interrupting the circulation for more than about six minutes This procedure is recommended for inserting grafts in the thoracic aorta because the maximum time the circulation can be interrupted with safety at this level is 15 minutes, otherwise paraplegia may occur Arteriography and pressure measurements were used to study the sutures and the grafts of the thoracic aorta at periods which varied between 12 and 15 months after the operation. It was found that the grafts were unchanged. Aneurysms were found in the dog which lived 15 months after suture of the ends of the resected aorta. Grafting is preferable to simple suture when the tension at the anastomosis is great. The anatomic study was done on 3 dogs with simple suture and on several dogs with aortic grafts In cases of simple suture the distensible fibrous tissue which joins both ends accounts for the formation of the aneurysm In the dogs with grafts coaptation was perfect The presence of areas of partial necrosis and cellular proliferation in the intima of the grafted segment of the aorta, far from the line of suture, indicates that the graft persists as a living tissue It is of interest to note the presence of chondrogenesis in the recipient aorta in the region subjected to pressure by clamps during operation This is probably due to alterations in the adventitial vessels

Blood Volume After Sympathectomy —Taquini and Villamil carried on observations on 5 patients with essential hypertension The patients were between the ages of 31 and 53 years They were observed before, immediately after and some time after they had a thoracolumbar sympathectomy (Smithwick's technic) The time of circulation, the venous pressure, the extracellular liquid and the total proteins of the blood plasma did not change immediately after operation. The volume of blood greatly increased immediately after the operation The increase became more obvious later, at periods of observation which varied between 368 and 420 days after operation. The increased volume of blood shows steady dilatation of the splanchnic vascular bed. It is possible that the lack of change of the time of circulation, when it is measured with the triketocholanic acid method, is due to the fact that the zones deprived of the sympathetic nerve do not react to this substance

Medizinische Klinik, Munich

44 1493-1524 (Nov 25) 1949 **Partial Index**

Abdominal Examination Under Anesthesia. E Schliephake and L Meuwsen.—p 1499
Changes in Serum Cholinesterase After Vegetative Stimulation in Allergic Skin Diseases M. Schoog —p 1500
*Contribution to Etiology of Gangrene of Intestines E Knappe —p 1503
*Problem of Treatment with Massive Doses of Digitalis P Laurentius —p 1506

Gangrene of Intestines —According to Knappe, the frequent occurrence of an apparently new disease, the so-called gangrene of intestines or necrotizing enterocolitis, in the province of Saxonia as well as in other regions of Germany during the period 1946 to 1947, was due to solanin and to solanidine In the majority of the cases the disease started after the patient had eaten a large amount of small, unripe or old, budding potatoes The incidence of the disease increased in spring and summer The solanin of the potato and of all the solanaceous plants contains tropeine. Consequently, solanin exerts an effect similar to that of atropine, but somewhat weaker It is an elective organotropic vagus effect, the point of attack is in the stomach or the upper segments of the intestines The colon may become involved because of paralysis of the pelvic nerve resulting from a stronger effect of the toxin. Products of decomposition, abnormal processes of putrefaction or other impairment of the intestinal tract may be considered as decisive or eliciting factors The general diet was poor in fats at that time, and that, too, may have favored the disease. A simple method for demonstrating the solanin or solanidine in the urine or in the feces is described.

Treatment with Massive Doses of Digitalis —According to Laurentius, the effect of digitalis and the tolerance of the drug depends on the condition of the heart Absolute arrhythmia requires administration of larger doses of digitalis than in cardiac decompensation. Thirty patients with absolute arrhythmia and auricular fibrillation, depending on combined defect of mitral valve, decompensated hypertonia, cardiac infarction and arteriosclerotic lesions of the myocardium, were given only fruit juices for three days. The resulting decrease in pulse rate was 20 to 25 beats, but a pronounced pulse defect was still present. Then 8 to 12 tablets of 0 8 mg of verodigen, a digitalis glycoside which is absorbed easily and rapidly and has little cumulative effect, were administered within 24 hours A definite improvement of the pulse, diminished dyspnea and general improvement were observed by the third day Treatment was continued with one tablet given eight and then six times in 24 hours and gradually less often until the required and final maintenance dose, half a tablet four times within 24 hours, was reached Treatment with this dose of the drug must be continued for weeks to prevent recurrences Fibrillation subsided after the administration of 32 tablets of 0 8 mg of verodigen, within four and a half days on an average. Latent and manifest edema disappeared simultaneously without the use of diuretics Improved heart action was manifested by the increase in blood pressure amplitude. Sleep and appetite were improved Results were as good as those obtained with strophanthin, oral administration of verodigen makes dispensable the difficult intravenous administration of strophanthin Verodigen is contraindicated in the absence of decompensation and when the life of the patient is threatened immediately, as in the presence of pulmonary edema Signs of drug intoxication were not observed in the author's cases

Nordisk Medicin, Stockholm

42 1817-1850 (Nov 25) 1949 **Partial Index**

*Indications for Resection in Cancer of Rectum H K Lassen—p 1817
*Importance of Salt and Fluid Administration in Treatment of Uncompensated Heart Disease I Heintzelmann—p 1829
Capillary Activity of Rutin I R Mathiesen—p 1833
Postvaccinal Encephalitis V Petersen—p 1838
Treatment of Alkaline Incrustations in Bladder Three Cases R Andersen—p 1840

Indications for Resection in Cancer of Rectum—Lassen says that when the tumor is located 8 cm or more from the anus, as it seems to be in about half to three fourths of the patients with rectal cancer he recommends transabdominal resection with end to end anastomosis If the ends of the intestines can be approximated only by traction, resection must be abandoned in favor of amputation If there has not been difficulty in intestinal passage before the operation, there is no ground for preceding or simultaneous cecostomy or colostomy In younger, not weakened patients with the tumor situated from 3 to 8 cm from the anus abdominoperineal resection with simultaneous temporary iliac anus is preferred, in somewhat older and poor risk patients abdominoperineal amputation is advocated If the cancer is situated 3 cm or less from the anus, abdominoperineal amputation is done unless the patient is too old and debilitated With low tumors in old and weak patients colostomy and secondary perineal amputation are advised, with closure of the part of the rectum lying above the tumor By the procedures outlined, at least half the patients operated on may expect full continence of the sphincter, disturbance of sexual function will occur in only a few of the male patients

Salt and Fluid Administration for Uncompensated Heart Disease—Heintzelmann studied the effect of treatment with diets low in salt and with fluid intake up to 3 liters daily in 30 patients with pronounced heart insufficiency and extensive edema In most cases there was progressive loss of weight and the more abundant fluid supply caused neither subjective nor objective aggravation He concludes that a diet containing less than 2 Gm sodium chloride can be of great value in the treatment of uncompensated heart disorders Limitation of the fluid intake is made unnecessary, and in some cases an abundant supply of fluid (2 to 3 liters daily) will be of added benefit

Presse Médicale, Paris

57 1097-1116 (Nov 30) 1949 **Partial Index**

Rachitogenic Diets J Cathala and F Verliac—p 1097
Role of Bronchial Lavage in Diagnosis and Treatment of Pulmonary Tuberculosis C Gernez Rieux A Breton, P Delwaulle and A Sevin—p 1101
Sequelae of Circumcision in Algerian Mohammedans and Their Treatment L Sabadini J Ducassou and M Imbert—p 1103

Bronchial Lavage in Pulmonary Tuberculosis—Gernez-Rieux and co-workers performed 462 tracheobronchoalveolar lavages (Abreu's technic) on 401 patients whose roentgenograms suggested pulmonary tuberculosis but who did not expectorate or whose expectoration proved negative on repeated examination and on culture and inoculation in guinea pigs Results of bacteriologic examination of the tracheobronchial secretions obtained by lavage were positive on culture and inoculation in 155 instances and on simple examination in 18 (37 per cent) of the cases Women and children swallow voluntarily materials from the lungs and trachea or expectorate badly Consequently tracheobronchoalveolar lavage should be performed exclusively in adult male patients Bronchial lavage yielded positive results in 100 of 203 male patients (49 26 per cent) with abnormal roentgenograms of the chest, whose sputum was negative on repeated examination and in whom Koch's bacillus could not be demonstrated on gastric lavage One hundred and nine of the 203 patients presented roentgenologic pictures suggestive of pulmonary tuberculosis without cicatrization, bronchial lavage was positive in 83 of the 109 patients (76 per cent) The remaining 94 patients presented roentgenologic pictures suggestive of inactive, cicatricial tuberculosis, bronchial lavage was positive in 17 (18 per cent) Eighty-seven patients with an established diagnosis of pulmonary tuberculosis were treated for several years and were considered cured on clinical, roentgen and bacteriologic examination Bronchial lavage was positive in 31 of these 87 patients (35 6 per cent) Results of bronchial lavage based on culture and inoculation in guinea pigs demonstrated that the incidence of so-called "closed cases" (in contrast to open tuberculosis) is much lower than it was generally believed There was not a single accident associated with bronchial lavage in the authors' cases The method should not be used in patients with hemoptysis, respiratory insufficiency, asthma and heart disorder It is of considerable aid in the early diagnosis of pulmonary tuberculosis, in therapeutic management, in control of recovery and in prophylaxis

Riforma Medica, Naples

63 1037-1062 (Oct 29) 1949 **Partial Index**

*Association of Penicillin and Serum Antitoxin in Therapy of Tetanus Thirteen Cases A Cioni and G Miano—p 1037

Association of Penicillin and Antitoxin Serum in Tetanus—Cioni and Miano used antitoxin serum, alone or in association with penicillin therapy, in 14 cases of tetanus For evaluation of results, the patients, who were between the ages of 12 and 40 years, were divided into two groups, those who had antitoxin serum alone and those who had it in association with penicillin Antitoxin serum was administered by intramuscular or intravenous route, with a daily dose of 50,000 to 200,000 r for a total dose of 100,000 to 2,200,000 r in two to thirteen consecutive days Penicillin was given intramuscularly, 50,000 units for each injection every three hours, for a total dose of 2,000,000 to 4,000,000 in ten to thirteen days The results of the combined antitoxin penicillin therapy were satisfactory The only patient who died in the group of 7 who had the combined treatment was extremely ill when treatment was started The drugs in association control the tetanic toxin at the focal point and prevent passage of toxins to the blood

Wiener klinische Wochenschrift, Vienna

61 799-814 (Nov 18) 1949

Recent Contributions to Pathologic Histology of Peripheral Vegetative Nervous System with Special Consideration of Neurovascular System I Obiditsch Mayer—p 799
Effect of Tyrothricin In Vitro and in Animal Experiments F Friza, H Holewka and K Rotter—p 801
Epidemiology of Poliomyelitis S Krauter—p 803
*Indications for Sulfonamide Medication in Pneumonia E Borkenstein—p 806

Indications for Sulfonamide Medication in Pneumonia—Borkenstein reports on 200 patients with pneumococcic pneumonia who were admitted to the university clinic in Graz, Austria, from 1944 to 1947 During 1944, all the patients with pneumonia were given sulfathiazole, while in 1947 sulfonamide compounds were administered only to those patients who were admitted before the fifth day of the disease The mortality rate was much higher in the patients who were given sulfonamide compounds after the fifth day of the disease than in those who were given sulfonamide compounds earlier The mortality rate of the patients given sulfonamide compounds after the fifth day of the disease was higher than in those whose treatment began after the fifth day of the disease but only with quinine-containing drugs This may be explained by the severe complications, such as pulmonary abscess and empyema, the occurrence of which depended on the treatment with sulfonamide compounds Sulfonamide therapy, therefore, is indicated in patients with pneumonia before the fifth day of the disease Results of treatment with sulfonamide compounds before the fifth day of the disease were more satisfactory in patients with unimpaired resistance than in patients whose resistance was impaired. Sulfonamide therapy, therefore, is contraindicated in patients with low resistance, particularly because of the occurrence of suppurative complications The treatment of pneumonia with sulfonamide compounds is justified by the good results which are to be expected in those cases in which sulfonamide therapy is indicated

Book Notices

THE REVIEWS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES AND DO NOT REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED

Operative Technic in Specialty Surgery Edited by Warren H Cole M D F A C S Professor and Head of the Department of Surgery University of Illinois College of Medicine Chicago Introduction by Allen O Whipple M D F A C S Cloth $16 Pp 725 with 391 illustrations Appleton Century Crofts Inc W 32nd St New York 1 1949

The development of surgery as a specialty has proceeded on a scientific basis since the discovery of anesthesia and asepsis The rapid progress in the art soon created a number of subspecialties dealing with limited systems of the body These developments were fostered as it were in a cyclic fashion and intensified by the separation of the teaching of each subspecialty in the various medical schools Eventually there were separate departments teaching surgery, but these were autonomous and not connected with the department of surgery of the medical school Thus gynecologic surgery was almost completely removed from the training provided most residents in surgery Urologic surgery is now almost wholly a surgical art with the relegation of treatment of the common infectious disorders back to the general practitioner and the ubiquitous antibiotics The treatment of fractures by the general surgeon in large communities, once so common has now largely been transferred to the orthopedic surgeon These trends were possibly intensified by the development of the American boards but are also nurtured by our great teaching institutions

It is curious therefore to see a book on operative technic appearing in two volumes under the subheadings General Surgery' and Surgical Specialties The field of general surgery appears to include wound healing care of the patient and abdominal surgery A great many lessons from the recent war have been incorporated into the text Probably the most fundamental is the recognition of the need for large quantities of whole blood in the severely burned or injured patient and most of all in the patient undergoing prolonged radical surgery Plastic surgery and amputations have drifted somewhat from the realm of the general surgeon but both sections reflect the latest advancements in these fields Parotid tumors and radical neck dissections are still performed by many general surgeons These subjects are well presented

Defects and diseases of the abdominal wall and its contents will surely interest all general surgeons The array of talent providing the various chapters is indeed splendid Resection of the esophagus with esophageal gastric anastomosis at levels as high as the sternal notch is well presented Selection of abdominal incisions is carefully portrayed There is apparent some difference in the management of wound disruptions as it appears on page 352 as compared with that on page 105 Duplications in a single system of surgery are apt to be confusing the technic of radical groin dissection is presented twice once by a surgeon and later by a gynecologist

The section on gastric surgery is especially complete and skilfully illustrated The Bilroth I operation though seldom performed, should be in the general surgeon s armamentarium Vagotomy is included as a new and useful procedure Its advisability in any gastric ulcer seems doubtful Both the thoracic and abdominal technics are detailed. Intestinal obstruction is another problem which has yielded to the surgeon s endeavor The value of intestinal intubation and its correct role is outlined The infrequency of volvulus reported by the author of this section is puzzling It appears to be not so uncommon in large hospitals dealing with many problems of an emergent nature

Surgery of the biliary tract and the pancreas and surgery of the spleen are also in the first volume The chapter on stricture of the bile duct is instructive The responsibility of the surgeon in this tragic circumstance cannot be too strongly emphasized Surgery of the thyroid may undergo new evaluation with the new tool of radioiodine Portal hypertension and its surgical management represent a field of growing interest

The volume on the surgical specialties is obviously designed to keep the young surgeon abreast in these fields although his clinical training may leave him inexperienced This contains such diverse subjects as reconstructive, thoracic orthopedic and neurologic surgery Skilful editing has streamlined the work to a useful compendium Operative technic does not appear to be a matter which can be taught by didactic training The introduction to the second volume emphasizes the fact that surgeons undertaking radical operations for cancer must be general surgeons of wide experience Is it possible for general surgeons to encompass so wide a field In these two volumes a commendable effort has been made to present something on a few of the technics that every general surgeon should know Surgeons whose interests lie in any segment of their art will find it profitable to possess these books

The Red Cross Nurse in Action 1882 1948 By Portia B Kernodle Cloth $5 Pp 524 with 16 illustrations Harper & Brothers 49 E 33rd St New York 16 1949

This is a history of the Red Cross Nursing Service from its establishment under Clara Barton s leadership through the post-war year 1948 Original documents, newspaper accounts and personal correspondence from the official records of the organization were drawn on in the preparation of this book Discussions with Red Cross volunteers and professional field workers, present and former administrators of the nursing service and leaders in nursing organizations in this country and abroad have guided the author in interpretating and evaluating policies and programs of the nursing service Comprehensive developmental data of this service are presented in statistical tables

Impersonal historical facts are enlivened by colorful character sketches of Clara Barton Jane A Delano Clara D Noyes and other outstanding contributors to this branch of the Red Cross organization Also adding to the general interest of the book are the accounts of the pioneer work in public health nursing and nursing education attempted by small groups of Red Cross nurses following World War I in Unalaska, the Ozark Mountain regions the Indian Reservations of Southwestern United States and in Eastern Europe

As the author points out the history of the nursing service is a part of the history of the entire Red Cross organization the social history of American and the history of the nursing profession As such, it will serve as a valuable reference source for students in either of these fields

Physiology of the Uterus By S R M Reynolds M A Ph D Staff Member Physiologist Department of Embryology Carnegie Institution of Washington Baltimore Second edition Cloth $12 50 Pp 611 with 68 illustrations Paul B Hoeber Inc Medical Book Department of Harper & Brothers 49 E 33rd St New York 16 1949

The edition appears ten years after the first one Physicians who never read the first edition missed learning a great deal about the physiology of the uterus In the present edition Reynolds has reviewed practically the entire literature dealing with this subject He tabulates more than 2 500 references The author index alone occupies 18 pages This will give one an idea of the enormous amount of work done by Reynolds in preparation for this book.

There are eight parts to the book (1) patterns and functions of uterine motility (2) hormone control of the myometrium (3) uterine growth (4) circulation of the uterus (5) metabolism in the uterus (6) innervation of the uterus (7) uterosomatic relationships and (8) the onset of labor The author proves that, whereas the corpus luteum of gestation is indispensable in the first part of pregnancy in the cat, guinea pig dog rat mouse and rabbit it is not necessary in the second part of gestation in the cat guinea pig and dog

Reynolds shows that whereas neostigmine provides one with a simple method for diagnosing presumptive pregnancy in women without resorting to laboratory tests this drug has no effect on the nonpregnant uterus in monkeys The reason for this is not known but it throws some doubt on the general validity of the theory of the cholinergic action of estrogen on the uterus

Reynolds summarizes the evidence of a nicely coordinated group of physiologic and nonphysiologic facts constituting the principle mechanisms of uterine accommodation of the products of conception He believes that, in view of the general agreement between the accounts of the activity of the undistended uterus of women and that of pituitary responsiveness of the uterus as described by Knaus, the available evidence supports the conclusion that the reactivity data of Knaus are essentially valid The author maintains that there seem to be some reason to believe that a substance given off by the uterus at certain times will eventually be obtained

Evidence is produced to show that there is no single cause for the onset of labor It seems now that parturition begins as a result of gradual accelerating convergence of a number of factors—structural, humoral, nervous, nutritional and circulatory—which, at a time characteristic for each species and adapted to the morphologic condition present in each, are so associated that they lead to evacuation by the uterus of its contents

This book should be in the possession of everyone interested in physiology, obstetrics, gynecology and infertility It is beautifully written and is excellently illustrated The illustrations are clear and instructive, the type is easy to read, the paper is sturdy, and the book is well bound Both the author and the publishers should be commended for having produced this excellent book

Mitchell's Pediatrics and Pediatric Nursing By Robert A Lyon M D Associate Professor of Pediatrics University of Cincinnati, and Elgie M Wallinger R N, B S M A Director of Nursing, Columbus Children's Hospital Ohio With a Chapter on Preventive Pediatrics by Rena M Gazeway R N B S M A Third edition Cloth $3 75 Pp 590 with 97 illustrations W B Saunders Company 218 W Washington Sq Philadelphia 5 7 Grape St Shaftesbury Ave London W C 2 1949

This edition of this well known textbook on pediatrics for nurses has much to recommend it as the outstanding book in its field Its coverage of the subject is particularly complete with greater emphasis placed on the topics of increasing present day interest The section discussing growth and development of the child is excellent It covers all aspects of development, including the special senses, psychologic progress and emotions as well as the usual material on physical changes Then a new chapter deals with the work of the public health nurse in homes and schools and the numerous aspects of her work in relation to disease prevention

Some discussion is given to every disease of any consequence, so that the nurse is made familiar with but not burdened with the details of a medical text The clearcut discussions are to the point, treatment is touched on only briefly and is up-to-date with the latest biologic agents

Other sections of the book acquaint the reader with all nursing and medical diagnostic and treatment procedures in the field of pediatrics A thorough knowledge of the text should familiarize a nurse with all aspects of child care The book can be recommended as of value to the physician as well, in that it offers a concise summary of disease topics and mental health

Handbook of Surgical Urology for Internes Hospital Corpsmen and Nurses By Nelse F Ockerblad M D F A C S, Professor of Clinical Urology University of Kansas School of Medicine Cloth $3 Pp 189, with 52 illustrations The Williams & Wilkins Company Mount Royal and Guilford Aves Baltimore 2, 1949

In the preface the author states, "This little book has been written with the idea that it would be useful to internes, hospital corpsmen and nurses In this he has succeeded admirably

A brief but comprehensive history of urology is given Knowledge of the modern methods of urologic diagnosis, so important to nurses and orderlies, is presented in a simple manner Nondiagnostic technic and therapeutic procedures are considered in great detail Attention is called to the value and importance of proper care of urologic instruments The preoperative and postoperative care of the urologic patient is presented in a manner that cannot be improved on

The urologic complications of pregnancy, urology in children and the use of the sulfonamides and antibiotics bring this little volume up-to-date This book fulfils a long-felt want and can be heartily recommended for the purposes for which it has been written The printing and illustrations are commendable

Bananas Chemistry Physiology Technology By Harry W von Loesecke Industrial Specialist Production and Marketing Administration United States Department of Agriculture Washington D C Vol I Economic Crops edited by Z I Kertesz Cloth $4 50 Pp 189, with 29 illustrations Interscience Publishers Inc 215 4th Ave New York 3 2a Southampton Row, London W C 1, 1949

This book is the first of a series of monographs on the chemistry, physiology and technology of food and food products edited by Kertesz Most of the publications dealing with bananas have been concerned with the methods of growing the fruit and the economics of production This volume briefly touches on these topics, but the emphasis is placed on the biochemistry of the fruit and its products

The first few pages are devoted to the history of the fruit and the growth of the trade The morphology of the fruit and commercial storage and ripening methods are then described After an excellent discussion of the chemical changes which occur during the ripening of the banana, the author takes up the problems associated with the transportation of the fruit and gives a short description of fourteen products which are made from bananas He follows this with a discussion of their nutritive value, indicating the need for much more research in this field, and concludes with a description of the many banana diseases and insect pests which plague the growers and act as a limiting factor in the production of bananas

The author writes very understandably and makes use of references at the bottom of each page rather than a bibliography at the end of each chapter There are also many excellent illustrations and diagrams, including a color plate showing the variations in color which the banana undergoes during the ripening process Although there are many tables of data to which no reference is made in the text, they are self explanatory and do not unduly impede one's progress through the book

As the author states in the forward, 'The volume is not intended as a handbook for those concerned with the raising of bananas Rather it is for those engaged in fundamental researches, so that such workers may be cognizant of results already accomplished or in progress and better informed of the path ahead" The physician, nutritionist or student desiring a compact reference to work which has been done on the banana will find this book invaluable

Pavlov A Biography By B P Babkin Cloth $6 Pp 365 with 8 illustrations The University of Chicago Press 5750 Ellis Avenue Chicago 37 Cambridge University Press, Bentley House 200 Euston Rd London N W 1, W J Gage & Co Ltd Toronto 2B 1949

Professor Babkin's biography of Pavlov is a fitting tribute to the memory of a great scientist As the senior surviving pupil, who knew him well for 35 years, and who served as his assistant for ten years in the Institute of Experimental Medicine, Professor Babkin is preeminently qualified for the task of writing the biography of Pavlov With becoming modesty he warns that, in view of the short time since the death of Pavlov and consequent lack of data as well as lack of perspective, the present volume should be regarded "only as material for a future, more comprehensive biography" However, the present opus is a solid contribution to which the future biographers will have little to add

The book consists of four parts Part I comprises the biography proper and Babkin's reminiscences of Pavlov Parts II, III and IV deal with Pavlov's scientific achievements in the physiology of the cardiovascular, digestive and central nervous systems The scientific material has been presented in a form comprehensible to any intelligent lay reader

There is nothing sensational or extraordinary in the life story of this man It is a story of a scientific worker, not unfamiliar in Tsarist Russia, a story of a man of humble origin struggling against poverty and official indifference and at the same time wholeheartedly devoted to the service of humanity and to high ideals In many ways Pavlov was fortunate He had good parents, a sympathetic and a most understanding wife and vigorous health To these must be added two traits which stamp him as a man of genius, his extraordinary power of concentration and endless capacity for work He was anything but an inspiring lecturer, he rarely formed friendships among his assistants, and he had few interests outside of his work

Out of this thoroughly objective, dispassionate recital of the many drab circumstances of his life, there emerges nevertheless a portrait of a strong man, of a man wholly devoted to a single task, that of experimental physiology. His laboratory and his experimental work absorbed him completely. He was a good husband, a kind parent and a patriotic citizen, but all these facts played a secondary role in his life. His primary interest was the physiologic experiment. "I am an experimenter from head to foot," he was wont to say. In his political views Pavlov was a mild liberal. He opposed the Bolshevik Revolution as a step, in his opinion, too radical for Russia, but later not only became reconciled to the "new experiment" but spoke enthusiastically about it. The Bolsheviks literally showered Pavlov with funds, assistants, honors and anything he could wish for. The question of the sincerity of the Bolsheviks apparently did not disturb him; he was gratified with the facts.

The second half of the book is devoted to a brief but adequate discussion of the scientific work of Pavlov. Modern physiology owes to Pavlov the introduction into practice of the method of physiologic surgery and a brilliant demonstration of its validity. The last 34 years of his life (1902 to 1936) Pavlov devoted almost exclusively to the study of functions of the cerebral cortex by the method of conditioned reflexes. He was convinced that a conditioned reflex is an elementary cortical reaction. On this physiologic foundation are built the highest and most refined forms of nervous activity which permit an animal or a man to establish their most complicated relations with the outer world. Babkin stresses that Pavlov's abandonment of the physiology of the gastrointestinal tract for the study of conditional reflexes must not be looked on as "serendipity," as it was a logical outcome of his inductive thinking. Babkin also feels that nothing is further from the truth than the oft cited statement that Pavlov denied psychology. In 1932 Pavlov expressed the opinion that the most important problem of the present day is "uniting or identifying the physiological with the psychological, the subjective with the objective." What is true is that he was primarily an experimenter and had little use for the construction of conceptual systems except as they could be supported by experimental evidence. Pavlov believed that with the help of the conditioned reflex method he would be able to express the whole behavior of an animal in purely physiologic terms. Babkin feels that it is too early to say whether or not this aim could be attained, because the application of the method is hardly 40 years old.

The biography of a great scientist by a distinguished pupil should find a welcome place in the library of every scientific worker and every educated man.

An Atlas of the Blood and Bone Marrow. By R. Philip Custer, M.D., Director, Laboratories of the Presbyterian Hospital in Philadelphia. Cloth. $15. Pp. 321, with 288 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W. C. 2, 1949.

This is the first atlas of hematology to recognize and propound the advantages of concomitant use of smears and sections in the study of bone marrow. Liberal use of wise selections from a fund of excellent material enabled the author to demonstrate clearly the complementary manner in which these two technics may be employed. His enviably vast source of pathologic specimens made it possible for the more rare hematologic conditions to be well represented. The book is conveniently organized and lucidly written. Organization follows a clinical pattern rather than a morphologic or pathologic one, a fact which should encourage clinicians in its use. Discussion of controversial subjects has been largely avoided in the accompanying text, but this has resulted in an occasionally oversimplified presentation, an example of which is myeloid metaplasia. Bibliography has been omitted except for a bare minimum of particular references.

Although photomicrography does not permit reproduction of minute cytologic detail, it is of advantage because of the preservation of architectural pattern. Although or perhaps because the material is unsurpassed, a disproportionately large amount of space has been allotted to hemolytic anemias. Thirty five pages are so occupied when only three pages are devoted to the refractory anemias of idiopathic variety and of the types which may accompany such nonhematologic diseases as neoplasms, uremia, endocrine failure and pregnancy. Polycythemia vera together with its varied complications is represented by only one bone marrow section.

Despite these minor faults, almost all of which may be a matter of opinion, this is probably by far the best atlas of hematology available today. It should prove to be of value not only to the accomplished clinical hematologist, but to the internist, general pathologist, general practitioner and medical student as well.

The Thyroid Hormones and Their Action. By G. Mansfeld, M.D., Professor of Physiology, University of Budapest. Translated by Erwin Pulay, M.D. Cloth. 24s. Pp. 157, with 60 illustrations. Frederick Muller Ltd., 29 Great James St., Bedford Row, London, W.C.1, 1949.

The author of this monograph has published a number of papers dealing with the respiratory exchange of isolated tissues as affected by variations in thyroid activity. Based on these studies, Mansfeld in the present monograph proposes the theory that the thyroid gland elaborates multiple hormones, including a "myelotropic hormone," which is concerned in hematopoietic action and which is deficient in pernicious anemia, and two hormones designated as thermothyrins, which exert a depressor effect on tissue oxidation. Unfortunately, the experimental data on which the author constructs his theories are so unconvincing as to leave the reader unimpressed. The naivete of the author is illustrated by his citation of a patient with Graves's disease who was cured by implantation of thyroid tissue from a normal subject. This case is cited as support of the thermothyrin deficiency theory of the etiology of Graves's disease. Although much remains to be learned about the thyroid and its disorders, the present monograph can be said only to confuse the field by irresponsible theorizing without substantial experimental or clinical background.

Physiology of Heat Regulation and the Science of Clothing. Prepared at the Request of the Division of Medical Sciences, National Research Council. Edited by L. H. Newburgh, M.D., Professor of Clinical Investigation, The Medical School, University of Michigan. Cloth. $7.50. Pp. 457, with 78 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W. C. 2, 1949.

This significant volume is a progress report of the research work on the most efficient and practical methods of protecting man against the extremes of external temperatures such as encountered in the polar regions, in equatorial deserts and at high altitudes in the air. This work by competent biologists, medical doctors and engineers during the late war was inaugurated by our Armed Forces. Fifteen authors contribute to the 12 chapters of the report. Each chapter is provided with an extensive bibliography. This valuable report shows how far the extremes of environmental temperatures can be mitigated by scientifically protective covering of man. The studies are being continued by both military and civilian groups.

Garrè Stich Bauer Lehrbuch der Chirurgie. Neubearbeitet von Dr. Rudolf Stich und Dr. Karl Heinrich Bauer, O. O. Professor der Chirurgie, Direktor der chirurgischen Universitäts-Klinik, Heidelberg. Fourteenth and Fifteenth edition. Cloth. 60 marks. Pp. 860, with 601 illustrations. Springer-Verlag, Reichpietschufer 20, Berlin W. 35 (British Sektor), 1949.

This edition impresses one as a worthwhile attempt to regain the place formerly occupied by German medical textbooks. The revised volume attempts to cover the entire field of surgery. The work presents limitations that are to be anticipated in a one volume work on surgery. A rather surprising fault is that the illustrations deal particularly with far advanced inoperable lesions. The text is satisfactory throughout except that to some extent it is not up to date. In the chapter on stomach surgery there is no reference to vagotomy; in the chapter on liver cirrhosis the Talma operation is advocated and only three lines in small print are given to the portacaval shunts. The authors feel that this last operation requires great skill and that it is generally not successful. The same pessimism is expressed with regard to total pancreatectomy in cancer of the pancreas. The authors apparently are not familiar with the work of Brunschwig

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES THEY DO NOT HOWEVER REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS BUT THESE WILL BE OMITTED ON REQUEST

REDUCING DIET

To the Editor —In an obese male patient aged 50, retired, with recurrent symptoms of precordial distress, the electrocardiogram shows a partial auriculoventricular block How many calories per day are advisable to cause reduction of his 290 pounds (131 5 Kg) of weight?

Louis J Polskin, M D , Lakeland Fla

ANSWER —In a weight-reducing program a few simple principles must be strictly observed Except in cases of gout, a high protein low carbohydrate, low fat diet that allows about 950 calories daily *will* achieve a weight loss of 2 to 4 pounds (1 2 to 1 8 Kg) a week

Of importance is the replacement of minerals and vitamins lost in reducing diets The high protein diet is extremely successful and need not be feared, even in cases of malignant hypertension or impending renal failure To the following diet should be added (1) a liberal and potent source of all vitamins and (2), since this is an acid ash diet some alkali, preferably sodium free should be added Some mineral waters offset the acid but contribute sodium in the presence of which water and weight are retained

Loss of weight on such a diet occurs in a staircase pattern On a low calory diet tissue fat is oxidized, either as such or after reconversion to carbohydrate The tissue spaces are *then* occupied by water or interstitial fluid, with greater specific gravity than fat Accordingly, patients on such a diet may actually gain several pounds of weight for a brief period However there soon ensues a change in water-tissue balance, with diuresis loss of 2 to 4 pounds (0 9 to 2 Kg) in twenty-four hours then a period of stabilization followed by further diuresis and loss of weight

A patient weighing 290 pounds should follow the program outlined until a weight loss of 50 to 60 pounds (22 7 to 27 2 Kg) has been achieved Then moderate portions of carbohydrate can be added to stabilize the weight for nine to twelve months, after which time a further reduction in weight may be considered Obviously, any person on a diet of about 1,000 calories cannot expect to accomplish the usual active day s work, any more than can those on the rice diet Following is the standard reducing program

Breakfast

Fruit or fruit juice one ordinary portion
1 egg plus 1 egg white in any form desired
½ slice of toast
Coffee either black or with skimmed milk

Luncheon

Thin soup optional
Moderate portion of lean meat fowl fish or seafood
1 cooked vegetable
Salad
Fruit for dessert
Beverage

Dinner

Thin soup optional
Lean meat liberal portion
2 cooked vegetables or 2 portions of 1 cooked vegetable
Salad
Moderate serving of cottage cheese
Fruit for dessert
Tea coffee or skimmed milk

All fruits may be eaten either raw or cooked or canned if not in extremely thick syrup

All vegetables either cooked or raw may be eaten with the exception of corn peas beans such as lima beans rice and potato

(One rounded teaspoonful of citrocarbonate® (a mixture of granular effervescent salts) in a glass of water should be taken twice daily

Supplemental vitamins

Fluids should be restricted

ACTH IN TREATMENT OF ASTHMA

To the Editor —Please comment on the potential value of ACTH in the treatment of asthma

M D , Illinois

ANSWER —Some laboratory work and clinical trials are now going on with pituitary adrenocorticotropic hormone (ACTH) and cortisone (and similar substances) in experimental hypersensitivity and clinical allergy One or more of the following considerations have been the stimulus for the individual investigator 1 The clinical conditions which ameliorate allergic manifestations are similar to those in rheumatoid arthritis Among these may be mentioned acute infectious disease, pregnancy, jaundice, surgery and anesthesia 2 Some investigators have claimed that these hormones produce increased antibody release *in* sensitized animals, others contend that no such increase results 3 A few have considered rheumatoid arthritis an allergic *phenomenon* At present there is little to substantiate this view The mere fact that one remedy helps two different manifestations does not constitute proof that both are due to the same basic cause (For example, epinephrine will help asthma and also shock Asthma may be caused by allergy, the shock by an entirely different factor) 4 Finally, a new and exciting therapeutic approach is always tried on many diseases, with or without rationale

Events are moving so rapidly in the field of hormone development that by the time this is published the present status may be altered As of this writing (Dec 14, 1949), the known situation is as follows Both pituitary adrenocorticotropic hormone and cortisone (and perhaps other cortical steroids) appear hopeful from the standpoint of being able to produce relief in allergic manifestations Most of the work thus far is of too short duration and too fragmentary to *justify* final statements If these substances prove to be unquestionably effective, the following limitations must be considered 1 *Injections* may have to be given daily This certainly will not constitute a great improvement in the management of the average allergic person 2 Material is scarce and may remain scarce indefinitely in the case of pituitary adrenocorticotropic hormone It is possible that complete *synthesis* of cortisone may be perfected and the compound may become generally available 3 Cost is great The cost of cortisone has been now reduced to $150 per gram At 100 mg a day, the cost of such material alone for one month of treatment would be $450 4 The toxic and particularly the possible remote effects from such treatment are definite deterring considerations Such effects are more to be feared from pituitary adrenocorticotropic hormone, with which multiple hormonal changes may be involved The most practical application of these substances against allergy in the near future (if the good results claimed are substantiated) should be their use in emergency situations, such as status asthmaticus and similar conditions in which a temporary effective remedy is of great advantage

OBLITERATION OF UTERINE CAVITY

To the Editor —What is the frequency of obliteration of the uterine cavity following curettage either in the pregnant or nonpregnant uterus?

H W Nottley, M D , White Plains, N Y

ANSWER —Obliteration of the uterine cavity following curettage either of the pregnant or nonpregnant uterus is rare Practically all the cases reported have been individual ones, and nearly all have appeared in foreign journals Recently, J C Ahumada (*Bol Soc de obstet y ginec de Buenos Aires* **28** 394 1949) reported 2 cases He reviewed the literature and found a total of 60 published case reports The most extensive paper on the subject is the one by S Stamer (*Acta obst et gyn Scandinav* **26** 263, 1946), who collected 24 cases Undoubtedly more cases of obliteration of the uterine cavity have occurred than have been reported

The obliteration may be partial or complete In the cases of complete obliteration the entire mucosa of the corpus and cervix has been destroyed whereas in the cases of partial obliteration only the mucósa of the isthmus has been destroyed The latter type is much more frequent than the former, for it occurred in about 75 per cent of the reported cases Where information was available, 48 followed scraping of a gravid uterus and only 4 occurred after scraping of a nonpregnant uterus

The prognosis in the cases of complete obliteration is hopeless because the condition is irreversible In these cases there is permanent secondary amenorrhea However, in the cases of partial obliteration, there occurs every four to six weeks a crisis of severe pain in the lower abdomen and pelvic organs, often associated with fever, nausea, vomiting and abdominal distension These symptoms subside after four to five days

The diagnosis is easy if one bears the condition in mind because passing a uterine sound will reveal the true condition The ideal treatment is gradual dilatation of the cervical canal In a few published cases there was a spontaneous cure of the cervical obstruction, apparently produced by the pressure of the blood which had accumulated in the uterine cavity

BECK'S PASTE

To the Editor—A patient has a tuberculous fistula following a nephrectomy A small tuberculous lesion in the cortex opened when the kidney was freed for nephrectomy Years ago Beck's bismuth paste was used for such fistulous tracts Have you any information about current use of this preparation?

Montague L Boyd M D Atlanta Ga

Answer—Beck's paste (one part bismuth subnitrate and two parts petrolatum) was developed in 1906 as an aid to roentgen demonstration of the source of suppurating sinus tracts and the extent of abscesses and empyema cavities It was soon found to be of therapeutic value in such lesions and was used extensively for fifteen to twenty years Bismuth poisoning was early reported, but in 1916 Beck reviewed the general experience, including 1,800 cases of his own without a fatality In the same year, he reported a series of 21 urinary fistulas some of tuberculous origin, with remarkable results following the injection of his paste By 1919 the paste had been modified to consist of one part bismuth subnitrate and nine parts of petrolatum with 2 ounces (62 Gm) of white wax per 10 pounds (4 5 Kg) of paste. Exact details of preparation and administration were outlined, with special emphasis on exclusion of water or oil from the mixture Beck emphasized the importance of fundamental surgical principles of diagnosis and treatment, the neglect of which not even his paste could correct The paste was of little value in nonsuppurating sinuses in fact, bismuth poisoning was more likely to occur from continued use of the paste after the tract had been sterilized

In spite of its efficacy under proper conditions bismuth paste now has been generally discarded because there are safer radiopaque materials for outlining fistulous tracts and antibiotics for treatment In the case cited streptomycin should be used with later excision of the tract, if necessary and feasible. It is assumed that the tract has been roentgenographically visualized with the use of iodized oil that bacteriologic studies have been made and that presence of a foreign body has been excluded.

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RIGHT HEMIPLEGIA AND LEFT FACIAL PARALYSIS

To the Editor—What would be the location of a lesion causing a right hemiplegia accompanied with left facial paralysis and motor aphasia? Could such a lesion be produced by an embolism or would it be caused by a cerebral hemorrhage or thrombosis? Could a person so affected be considered to have full use of his mental faculties within two weeks after the ictus or would there be impairment of the sensorium?

M D Costa Rica

Answer.—No single lesion could be expected to produce right hemiplegia with aphasia and left facial paralysis It would be more likely that the conditions present in such a case would consist of right hemiplegia and left facial weakness with speech disturbances resulting from involvement of the primary innervation of the speech mechanism, causing dysarthria rather than aphasia. Such a lesion would probably be in the brain stem on the left side. It could be of various types, an embolism, a thrombosis or a hemorrhage would all be possible. The same type of trouble could also result from injury or from neoplasm. There would not necessarily be any involvement of such a person's mental faculties, although he might have considerable difficulty in expressing himself

If, on the other hand the interpretation as stated in the query is correct and the patient does have a right hemiplegia with aphasia and, in addition left facial paralysis then he must have two separate lesions Such lesions could be of various sorts although multiple cerebral thromboses would be the most likely and the patient might not be in full use of his mental faculties two weeks after the ictus

KETOSIS

To the Editor—Are there any comparative data on the production and consumption of ketone bodies in those suffering from starvation and in those with diabetes mellitus?

Samuel L. Immerman M D Philadelphia

Answer—The ketone bodies are formed chiefly if not solely in the liver and represent normal intermediate products in the breakdown of fatty acids They appear to be readily utilized for the production of energy by the peripheral tissues of both diabetic and nondiabetic subjects However, in the person with uncontrolled diabetes the rate of production may exceed the rate of utilization, with the result that large amounts appear in the blood and are excreted in the urine. If excessive breakdown of fatty acids continues in the subject with uncontrolled diabetes, ketosis progresses and coma finally results The exact role played by acetoacetic acid in the production of unconsciousness and accompanying symptoms is a matter of dispute It is of significance that in the starved nondiabetic subject ketosis does not develop to a degree at all comparable with that in the person with uncontrolled diabetes

Results of studies in recent years do not support the idea that "fats burn in the flame of carbohydrates" It is now generally believed that carbohydrate is not ketolytic and that utilization of ketone bodies is not dependent on the presence or oxidation of dextrose On the other hand, carbohydrate is antiketogenic in the true sense of the word, and ketosis occurs when it is lacking When dextrose is available in adequate amounts from the breakdown of glycogen or protein and can be utilized, it is used When the supply is inadequate, as in fasting, or its utilization impaired, as in uncontrolled diabetes, fatty acids are oxidized in the liver to form ketone bodies, which are then utilized in the periphery (except in the brain, which apparently uses only dextrose)

TREATMENT OF DIABETES INSIPIDUS

To the Editor—Is there any new remedy for diabetes insipidus?

Thomas Van Urk M D Miami Beach Fla

Answer.—Patients with diabetes insipidus usually respond dramatically to the administration of extracts of the posterior lobe of the pituitary gland or, more specifically, that fraction which contains the antidiuretic principle (beta-hypophamine) The injection of 0.25 to 0 5 cc. of a solution of beta-hypophamine subcutaneously or intramuscularly (for an adult) two or three times a day usually is effective to a gratifying degree. For long-continued action beta-hypophamine tannate in oil may be given intramuscularly in amounts of 0 5 to 1 0 cc every twenty-four or forty-eight hours If beta-hypophamine is not available posterior lobe pituitary solution (surgical) may be injected subcutaneously or intramuscularly two or three times a day in dosage of 0 25 to 0.5 cc.

Patients with adequate breathing space in the nose and with normal nasal mucosa may often secure relief without hypodermic injections by the use of posterior lobe solution applied on cotton pledgets high up in the nostrils A more convenient method, and the least expensive of all, is the insufflation of posterior lobe pituitary powder intranasally In most patients the application of a tiny amount of the powder three or four times a day by means of a small atomizer gives prompt and complete relief One should establish by appropriate tests that nephritis, diabetes mellitus or other disease is not a factor or that frequent urination is not due to habit, nervousness or drugs

ACETONE AS A CAUSE OF DERMATITIS

To the Editor—Could deleterious effects follow the continued use of acetone U.S P to dissolve penicillin in oil from syringes Are the properties of this compound on contact with the hands similar to those of volatile solvents such as benzol and carbon tetrachloride?

A. E Powell M D, Madison Va

Answer.—Acetone is known to be a primary irritant Dermatitis has been reported following its use as a nail lacquer remover In industry it is also recognized as a source of industrial dermatitis It is probably less irritating than benzol but about as irritating as carbon tetrachloride If acetone is used frequently in the cleaning of syringes, some form of protection for the hands is advisable.

CLEFT PALATE

To the Editor—A baby 6 weeks of age has a cleft palate which involves only the uvula and the entire soft palate Should this be repaired and if so at what age? What will be the harmful effects if it is left unrepaired? Does such an anomaly ordinarily interfere with nursing?

Ralph L. Cash M D Princeton Ky

Answer.—It is the consensus among plastic surgeons that cleft palate defects, including those of the soft palate only, should be operated on at the age of about 18 to 20 months If it is left unrepaired the patient probably will develop typical cleft palate speech On the other hand, proper closure should afford satisfactory speech provided that adequate speech therapy supplements the surgical treatment. The ability to nurse is sometimes impaired because of the leakage of air through the nose These children sometimes do better fed with a bottle

EXPOSURE TO MICA DUST

To the Editor —Could mica, which is used as a dust on plastic sheeting, act as a skin irritant if the sheeting is used to make such articles as baby pants? Would inhalation of mica dust by the employee cause silicosis?

Sidney E Lenke, M D , Brooklyn

ANSWER —Mica is any one of several complex silicates of the magnesium-aluminum-potassium type Chemically, but not physically mica is somewhat akin to some talcs and some asbestos, although the percentage of accompanying free silica may be lower in mica In view of the frequently reported damaging action of talc as used in the operating room, it appears possible that any raw skin surfaces on infants could be further irritated by mica dust However, it seems likely that most of any mica dusted onto plastic surfaces would disappear after the first washing Physiologically mica is rated as an inert dust, since it produces no proliferative reaction As to workers exposed to mica dust the problem may be solved by petrographic analysis to determine its free silica content, if any Since there are many micas, the free silica content may vary appreciably If this content is less than 5 per cent, then it is necessary only to maintain a work atmosphere harboring less than 50 million particles per cubic foot of air Nevertheless, it is not desirable to expose workers to this high tolerance level if lower counts may be procured

PERONEAL MUSCULAR ATROPHY

To the Editor —Is there any treatment for familial progressive muscular atrophy? I have under observation a father, aged 46, with a severe muscular atrophy of the intrinsic muscles of the hands and feet (His father, whom I never met, is said to have had a similar condition) Two daughters, aged 20 and 17, have this condition to a moderate degree The third daughter, aged 14, is beginning to show early signs of it The fourth daughter, aged 7, shows no signs There are no sons This seems to be the peroneal muscular atrophy of Charcot-Marie-Tooth Is there any treatment for this condition in the younger children? What are the possibilities of this condition appearing in the next generation?

M D , New Jersey

ANSWER —The history conforms to the usual description of peroneal muscular atrophy of the neural type and familiarly known as Charcot-Marie-Tooth's disease It is usually hereditary and a number of pedigrees of affected families have been published In some instances only the males are affected, but usually both sexes not only transmit the disease but have evidence of it Nothing certain is known of the causation, and no treatment will arrest the course of the disorder It is extremely likely that the disease will appear in succeeding generations Rehabilitation centers have been established which are competent to give massage and appropriate exercises to help maintain the nutrition of the muscles and to aid the patient in making the best of his disabled extremities

NONALLERGIC BED CLOTHES

To the Editor —Can I purchase sheets, blankets and mattresses free of allergy-provoking material?

G W Hanna, M D , Homer City, Pa

ANSWER —Cotton fiber used to manufacture sheets does not contain antigenic material Any filler that might be used during the process of manufacture can be removed by thorough washing Blankets are a problem primarily for those who are sensitive to wool Cotton blankets (with no admixture of wool) are available from the Beacon Mfg Co, 300 West Adams Street, Chicago, or from Pacific Mills, 214 Church Street, New York An electrically heated sheet (Westinghouse Electric Co) covered with a cotton blanket should be satisfactory An electric comforter (Westinghouse Electric Co) also may be obtained This does not contain allergenic material and eliminates the need of an additional cotton blanket A "nonallergenic" mattress is a rubber mattress

PENDULOUS BREASTS

To the Editor —I would appreciate an opinion on the use of physical methods for the correction of flabby breasts and of pendulous breasts

M D , Illinois

ANSWER —The correction of flabby and pendulous breasts is based on the etiologic factors involved The pendulous or ptosed breast presents itself with an atrophic, normal or hypertrophic gland In all such instances there is loss of firmness and elasticity in the suspensory apparatus of the breast Even in otherwise normal young girls there may be a tendency of the breast to hang Senile involution of the glandular and fatty components of the breasts also cause them to descend The atrophic inelastic skin cannot adapt itself to the reduced volume of the breast and no longer provides support Similar factors are responsible for pendulousness after rapid loss of weight, or repeated pregnancies In pendulous hypertrophic breasts the increased volume distends the skin and suspensory ligaments

The correction of this condition requires affixation (mastopexy) of the gland to the pectoral muscle, with or without reduction of the gland and removal of the redundant skin A properly fitted brassiere will relieve the pain and dragging sensation on shoulders and chest, as well as backache Massage and exercise will serve only to aggravate the condition

DOWICIDE G

To the Editor —A patient has asked about the possible toxic effects from working with sodium pentachlorophenol, sold under the trade name of doricide or dowicide G It is used to arrest the development of bacteria in starch solutions He reports that the filling that he uses in weaving rugs is soaked in this solution and he handles fillings all day He wants to know whether there are any toxic effects from handling and from inhalation He has not noticed any toxic effects to date

M D , Maryland

ANSWER —The sodium salt of pentachlorophenol is a weed, mold and termite control chemical sold under the trade names dowicide G (Dow Chemical Co) and santobrite (Monsanto Chemical Co) According to a technical bulletin (TB 023) issued by the Monsanto Chemical Co , it is irritating to the mucous membranes of the eyes, nose and throat in dust form and may provoke violent sneezing and coughing when inhaled. The bulletin also states that the solid material and 1 per cent or stronger water solutions are irritating to the skin of most persons if contact is prolonged beyond five to ten minutes or if repeated contacts for shorter periods occur Precautionary measures advised for the preparation and handling of solutions of this material are as follows Avoid contact with the eyes or face, wear rubber gloves if handling entails prolonged contact, wear respirator or fold gauze pad over the nose and mouth if the chemical causes sneezing or coughing, and wash exposed portions of the body with soap and warm water after handling

RHEUMATOID ARTHRITIS

To the Editor —What in your opinion is the most effective up-to-date treatment for rheumatoid arthritis?

C Annest, M D , Burley, Idaho

ANSWER —While cortisone or pituitary adrenocorticotropic hormone constitute the most effective known treatment for rheumatoid arthritis, neither drug is yet available except for investigative purposes The presently accepted methods in the treatment of this form of arthritis consist in general measures, including increased rest, relief of pain with acetylsalicylic acid or other salicylates and a diet high in protein and vitamins Physical therapy in the form of heat and active exercises which can be utilized daily by the patient at home is also of definite value Deformity of the joints should be prevented by orthopedic measures, chiefly removable plaster splints In many instances, help along psychotherapeutic lines may constitute an essential part of therapy

DIAGNOSIS OF HODGKIN'S DISEASE

To the Editor —Can one make a diagnosis of Hodgkin's disease by marrow biopsy only, or must there be a gland biopsy?

T T Monaghan, M D , Corner Brook, Newfoundland

ANSWER —Diagnosis of Hodgkin's disease by marrow puncture only is difficult, if at all possible Foci of Hodgkin's disease may develop in the bone, and, if the aspirating needle secures a specimen from one of these foci, an expert pathologist might make the diagnosis In general, a marrow biopsy is not sufficient basis for final diagnosis of Hodgkin's disease and a lymph node biopsy is necessary

BRONCHIAL MONILIASIS

To the Editor —A patient suffers from chronic pulmonary tuberculosis (inactive at this time) and has frothy sputum showing large numbers of Monilia albicans A consultant was of the opinion that the patient has bronchial moniliasis Are iodides contraindicated in this case? Someone has suggested the use of anti-Monilia serum, but I am told that the serum is not available for general use

Charles W Price, M D , Decatur, Ala

ANSWER —The iodides are the only known treatment for systemic moniliasis, although they may not benefit severe conditions The use of antiserum is still in the experimental stage

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PLACENTAL TRANSFER OF CHLORAMPHENICOL (CHLOROMYCETIN®)

WILLIAM C SCOTT M D
and
ROBERT F WARNER M S
Denver

With the advent of chemotherapy and later the first of the antibiotics, it became possible to extend the range of treatment of the fetus via placental transfer from the maternal to the fetal circulation This mode of treatment has been extensively used within the range of organisms affected and has proved highly effective both as a preventive and a curative treatment for the mother and fetus When, in 1947, Ehrlich and associates succeeded in isolating and later producing synthetically pure crystalline chloramphenicol (chloromycetin®) treatment of another large group of infections was placed on a practical basis[1] The advantages of an orally effective antibiotic the scope of action of which includes most of the infectious agents encountered in obstetric practice, from which no toxic reactions have been reported and which has the potentiality of an inexpensive product are many The purpose of this study was to determine, if possible, whether there is placental transmission of this new, highly desirable addition to the field of antibiotic therapy

METHODS

Chloramphenicol was given to 12 normal pregnant patients during term labor in dosage of 2 Gm orally This amount was repeated at two hour intervals until delivery occurred At the time of delivery, 10 cc of maternal venous blood was drawn and 10 cc of fetal blood was collected from the umbilical cord

The method of colorimetric estimation of chloramphenicol developed by Glazko, Wolf and Dill[2] was followed. This determination is based on the reduction of chloramphenicol with metallic zinc, followed by diazotization and coupling with Bratton-Marshall reagent[3] The accuracy of this method was checked throughout the experiment by adding a known amount (20 to 50 micrograms per cubic centimeter of serum) of chloramphenicol to normal serum This serum was analyzed just as a patient's sample and was processed at the same time The values obtained were compared with the amounts of chloramphenicol added Five separate checks revealed from 83 to 117 per cent recovery, which was well within the limits of error of the method These results indicated that the method was sufficiently accurate for the determination of chloramphenicol blood levels in this study

RESULTS

Twelve patients were investigated in this series of determinations Chloramphenicol was successfully measured in both the maternal blood and the cord blood of 10 of these Two patients showed no chloramphenicol (within the limits of experimental error) to be present in either the maternal blood or the cord blood As a general rule the concentration found in cord blood was less than that found in maternal blood, although in most cases they were approximately equal

Demonstrable chloramphenicol levels of 6 3 to 39 8 micrograms per cubic centimeter appeared in the maternal blood of 10 patients, accompanied with proportionate levels in the cord blood Five of these patients received one dose of 2 Gm chloramphenicol at times varying from 71 to 135 minutes prior to delivery The remaining 5 patients were given a first dose of 2 Gm 180 to 625 minutes prior to delivery This initial amount was followed by similar doses administered each two hours until delivery The total dosage was 4 Gm in all but 1 patient, who received a total of 8 Gm of chloramphenicol In patients 4 and 5 the initial 2 Gm dose was given 90 and 144 minutes, respectively, prior to delivery, but no chloramphenicol was recovered in either the maternal or cord bloods (see the table)

There was no evidence of toxicity exhibited by any of the patients or infants Some of the mothers vomited soon after administration of the drug, but this was considered secondary to the ingestion during labor of the large amount of fluid needed to wash down the eight large capsules comprising a 2 Gm dose of the drug The regurgitation in most cases so closely followed the administration that absorption of the gelatin capsules had not yet occurred This precluded any diagnosis of chloramphenicol toxicity This complication of vomiting, however, did prevent the inclusion of these patients in this study

COMMENT

The foregoing experiment proves that chloramphenicol does pass the placental barrier and is found in the fetal blood stream in concentrations proportional to that existing in the mother After a single dose of 2

From the Department of Obstetrics and Gynecology and the Department of Biochemistry University of Colorado Medical Center

Chloramphenicol (chloromycetin®) was supplied for use in this project in the form of kapseals® by Parke, Davis & Company Detroit.

Dr Bernard B Longwell of the Department of Biochemistry and Dr E Stewart Taylor of the Department of Obstetrics and Gynecology University of Colorado Medical Center aided in this study

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Gm is given, a therapeutically effective blood level is found within 71 minutes and persists at least 135 minutes This concentration is maintained by repeating the initial dose each two hours, and in this study was demonstrated over a period of at least 625 minutes The difference in blood level between the maternal and fetal circulations would not seem to be sufficient to prevent easily obtainable therapeutic dosage to the infant by the simple oral administration of the drug to the mother

The pronounced differences in maternal blood concentration demonstrated in the present study, including the 2 cases in which no drug was found, may be partially explained by the fact that these patients were in active labor It is well known that there may be retention of food in the stomach during labor, and such retention could easily cause an appreciable difference in the blood levels of chloramphenicol in various patients It may account for the 2 cases in which no chloramphenicol could be demonstrated The time element is another factor which could cause much variation in the levels of the agent in the blood Since it is not possible to administer the dose at a certain time before delivery, there would also of necessity be varying amounts of absorption of the drug in each patient

Levels of Chloramphenicol Found in Maternal Blood and Cord Blood After the Designated Dose was Administered to the Mother

Patient	Dose (Gm)	Time Administered Prior to Delivery (Min)	Maternal Blood Levels (µg /Cc Serum)	Cord Blood Levels (µg /Cc Serum)
1	2 	140	35 5	30.3
2	2	71	14 0	9 5
3	2 2	200 80	10 5	3 0
4	2	114	Unsatisfactory test	Unsatisfactory test
5	2	90	Unsatisfactory test	Unsatisfactory test
6	2 2	185 65	22 3	19 3
7	2 2	180 60	9 0	9 3
8	2 2 2 2	625 350 220 50	15 3	14 8
9	2	100	0 3	4 8
10	2	292	39 8	37 3
11	2	135	15 0	14 5
12	2	90	34 3	36 3

In human volunteers Ley, Smadel and Crocker[4] found blood levels of chloramphenicol to be approximately 6 micrograms per cubic centimeter two hours after a dose of 2 Gm These results are in the same range as the levels of chloramphenicol determined in this study

All work done on egg embryos, experimental animals and human subjects has demonstrated a lack of toxicity except for the production of anemia when the drug is administered to dogs and mice in large dosage over a long period of time[5] Chloramphenicol is exceptionally stable, is rapidly absorbed from the intestinal tract and is excreted in the urine principally as inactive degradation products A single dose of chloramphenicol gives a demonstrable blood level within thirty minutes At the end of eight hours it has disappeared from the blood, and 80 to 92 per cent is recovered in the twenty-four hour urine specimen[6]

The discovery of chloramphenicol has widely extended the field of antibiotic therapy because of its proved effectiveness against the rickettsial and gram-negative infections Many in vitro studies have shown the following organisms to be susceptible, and clinical application has revealed great beneficial effect of the drug in nearly every case in which the etiologic organisms were Escherichia coli, Aerobacter aerogenes, Proteus vulgaris, Pseudomonas aeruginosa, Salmonella typhosa, Brucella suis, Brucella abortus, Brucella melitensis, Pasteurella tularense, Rickettsia prowazeki, Rickettsia tsutsugamushi (the agents of scrub typhus, epidemic typhus, murine typhus, Rocky Mountain spotted fever and rickettsialpox), the virus agents of psittacosis, lymphogranuloma venereum and granuloma inguinale, and the gram-negative cocci[7] Chloramphenicol has also been proved effective against the spirochetal agents of relapsing fever and syphilis, although its full value in the treatment of the latter disease has not been established Bliss and Todd have demonstrated the gram-positive cocci to be susceptible to relatively low concentrations of chloramphenicol by in vitro studies This antibiotic apparently lies midway in effectiveness between aureomycin, the most effective, and streptomycin, the least effective drug according to in vitro studies on gram-positive cocci[8] If further clinical study should prove the commoner virulent gram-positive cocci susceptible, this drug will indeed be an extremely useful antibiotic The placental membrane has proved permeable to both penicillin and streptomycin Now that the placental transfer of chloramphenicol has been proved, the obstetrician has at his command a drug with the advantage of oral administration, rapid action, lack of toxicity and an expanded range of effectiveness

SUMMARY AND CONCLUSION

In order to determine whether or not there was placental transfer of chloramphenicol (chloromycetin®), 12 patients were given this drug in 2 Gm doses during term labor Blood was collected at the time of delivery from both the maternal and fetal venous circulations Colorimetric determinations revealed that 10 of the 12 had a therapeutically effective serum concentration in fetal cord blood within 71 minutes after initial dosage This level was maintained for at least 135 minutes, and by repetition of the initial 2 Gm dose each two hours during labor the level could be maintained as long as 625 minutes The foregoing results demonstrated that chloramphenicol is transmitted across the human placenta No toxicity was demonstrated in either the mother or the infant

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HEMOPOIETIC CHANGES DURING ADMINISTRATION OF CHLORAMPHENICOL (CHLOROMYCETIN®)

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Profound hemopoietic changes have been observed in patients who have received chloramphenicol (chloromycetin®) therapy Streptomyces venezuelae, from which the agent is derived, was isolated and its antibiotic activity demonstrated by Burkholder and others in 1947[1] In the same year, Ehrlich and his co-workers[1] extended the studies and prepared the compound in crystalline form Payne and collaborators[2] first employed the drug clinically in typhus fever in 1948 Chloramphenicol is well absorbed from the gastrointestinal tract, blood levels after oral ingestion of the drug begin comparable to those obtained by parenteral administration[3] It is excreted largely in the urine, appreciable amounts being found within one-half hour after a single oral dose, and maximal urinary concentrations occur between two and eight hours Eighty to 92 per cent of the total amount administered is excreted within twenty-four hours[1]

Summary of Bone Marrow Observations

	Case 1 J B		Case 2 J O	Case 3 L M	
Date	July 15 1949	July 27 1949	July 21 1949	Aug 3 1949	Aug 15 1949
Cellularity	+++	++	++	−−	+++
Megakaryocytes	Increased	Increased	Normal	Normal	Normal
Myeloblasts	13	10	2	16	9
Progranulocytes	4	4	5	12	14
Myelocytes	65	3	7	85	51
Metamyelocytes	291	90	94	215	187
Band cells	96	56	4	157	69
Segmented cells	76	151	[illegible]	120	22
Eosinophils	42	195	31	48	34
Basophils	2	1	1	2	2
Lymphocytes	38	97	21	61	41
Monocytes	3	8	2	5	6
Histiocytes	5	1	13	15	11
Plasmacytes	1	16	24	112	39
Normoblast A	81	3	[illegible]	2	12
Normoblast B	265	23	135	76	208
Normoblast C	15	412	525	196	278

In the experiments of Smith and his associates[4] varying degrees of anemia were noted in 3 dogs receiving 1 Gm of chloramphenicol intramuscularly (72 to 88 mg per kilogram of body weight per day) In the severest case, a red blood cell count of 2,300,000 (42 per cent hemoglobin) was observed on the tenth day of therapy as contrasted to the initial count of 5,300,000 red blood cells (85 per cent hemoglobin) However, the red blood cell count rose to 3,700,000 (60 per cent hemoglobin) (presumably while the animal was still receiving the drug) at the end of the experiment on the twenty-fourth day In the second animal anemia developed gradually during the administration of chloramphenicol, with final values approximating those of the first dog In the third dog the initial red blood cell count of 5,800,000 (91 per cent hemoglobin) dropped to 4,300,000 (85 per cent hemoglobin) on the tenth day, to return to a final value of 5,200,000 red blood cells (85 per cent hemoglobin) The dog which received 1 Gm of chloramphenicol daily by the oral route (143 mg per kilogram per day) did not manifest anemia None of the dogs receiving the drug either parenterally or orally showed appreciable changes in the total leukocyte or differential counts Changes in the hemogram were not noted in rabbits, mice or guinea pigs[5]

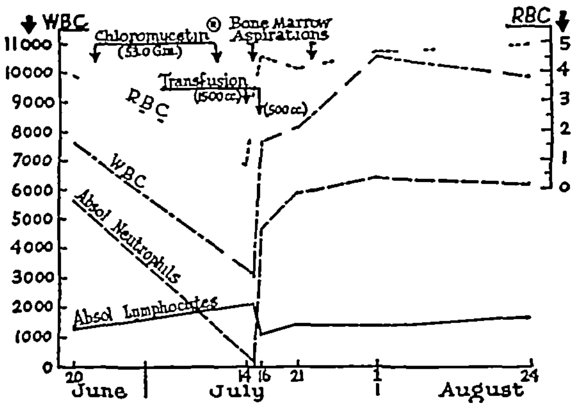

Fig 1 (case 1) —Blood changes during administration of chloramphenicol. Especially noteworthy in this case was the development of severe anemia.

Toxic manifestations have not been described to date following oral administration of chloramphenicol[6] Two normal men tolerated a dose of 10 Gm daily for ten days without untoward changes in the blood or urine[6a]

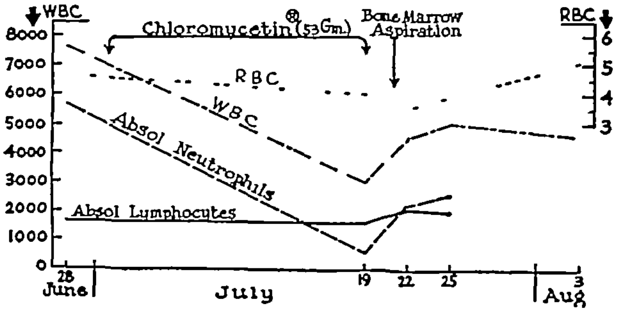

Fig 2 (case 2) —The development of the leukopenia and granulopenia coincides with the administration of chloramphenicol and the recovery with its discontinuance

Our interest in the hemopoietic effect of chloramphenicol was aroused by observation of a red blood cell count of 850,000 and 17 per cent (2 6 Gm) hemoglobin in a

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From the Hematology Laboratory and the Hektoen Institute for Medical Research of the Cook County Hospital

Read before the twenty second annual meeting of the Central Society for Clinical Research, Chicago November 4 1949

1 Ehrlich J Gottlieb D Burkholder P R. Andersen L and Pridleam T J A New Antibiotic from a Soil Actinomycete Science **106**: 417 (Oct. 31) 1947

2 Payne E H Knaudt J A and Palacios S Treatment of Epidemic Typhus with Chloromycetin J Trop Med. **51** 68 (April) 1948 Payne, E H Sharp E A and Knaudt J A Treatment of Epidemic Typhus with Chloromycetin Tr Roy Soc. Trop Med. & Hyg **42** 163 (Sept) 1948

3 Woodward, T E Smadel J E Ley H L. Jr Green, R and Mandelson D S Preliminary Report on the Beneficial Effect of Chloromycetin *in the Treatment of Typhoid Fever* Ann Int. Med. **29** 131 (July) 1948

4 Smith R M Joslyn R N Grulizit R M McLean I William I Penner M A and Ehrlich J Chloromycetin Biological Studies J Bact **55** 425 (March) 1948

5 (*a*) Therapeutic Notes Parke Davis & Company July August 1949 (*b*) Smith and others.[4]

6 Bradley W H Chloromycetin in Typhoid Fever Lancet **1** 869 (May 21) 1949 Gauld H L. Schilingman A S Jadson E B Manney M. C Batsen H C and Campbell, C. C Chloramphenicol (Chloromycetin) in Experimental Cholera Infections J Bact. **57**: 349 (March) 1949 Ley H L Jr Smadel, J E. and Crocker T A. Administration of Chloromycetin to Normal Human Subjects Proc Soc. Exper Biol. & Med. **68**: 9 (May) 1948 Footnote 2

Negro boy 11 years of age (98 pounds [44 5 Kg]) with uncomplicated typhoid four days after discontinuance of therapy

Case 1—J B, a Negro boy aged 11 had been receiving chloramphenicol (total dose 53 0 Gm) for eighteen days Blood values at the beginning of therapy were within normal limits (fig 1) On the twenty-third day of therapy his white blood cell count was 3,200 with only 8 per cent neutrophils and the bone marrow revealed a decided maturation arrest in erythropoiesis with a relative diminution and distinct shift to the left in granulopoiesis (see the accompanying table) Seventeen days after completion of treatment the marrow showed accelerated erythropoiesis, with essentially normal granulopoiesis A remarkable eosinophilia was now present (table) No abnormalities were noted in the peripheral blood twenty-two days after discontinuation of therapy No other drugs had been administered except penicillin

Two other cases were observed almost simultaneously

Case 2—J O, a Negro aged 41 with brucellosis, weight 165 pounds (74 8 Kg) received 53 Gm of chloramphenicol in nineteen days The initial examination of the blood revealed essentially normal values (fig 2) At completion of therapy the man had a white blood cell count of 3,000 with 22 per cent neutrophils, and two days later the marrow showed a relative decrease in granulopoiesis and a relative increase in erythropoiesis with some maturation arrest (table) The hemogram improved immediately on discontinuance of therapy, and fourteen days later values had returned to normal Penicillin was the only other drug previously administered

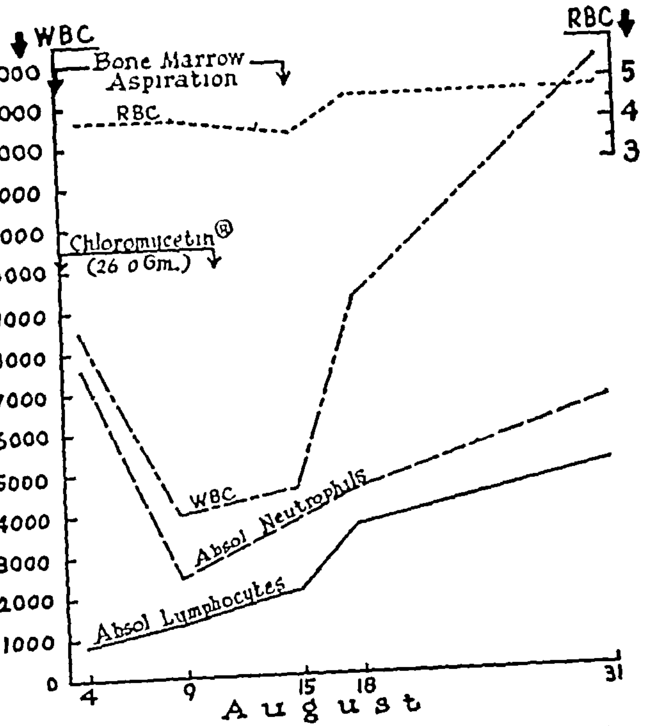

Fig 3 (case 3)—Precipitous development of leukopenia and granulopenia coincidentally with administration of chloramphenical

Case 3—L M, a Negro boy aged 14 years, weight 105 pounds (47 6 Kg) with typhoid (complicated by amebiasis) had an initial count of 4,160,000 red blood cells, hemoglobin 79 per cent (12 3 Gm) and 8,500 white blood cells with 90 per cent neutrophils and 10 per cent lymphocytes Chloramphenicol was administered (3 Gm daily, total dose 26 Gm) for nine days On the sixth day the leukocyte count was 4,000 with 62 per cent neutrophils (fig 3) There were no quantitative changes noted in the platelets On the fourth day after completion of therapy examination of the marrow revealed decided diminution in the number of granulocytes with some shift to the left and a relative increase in erythropoiesis compared to that in the marrow obtained prior to therapy (table) Emetine hydrochloride, 65 mg daily, had been administered between the ninth and thirteenth days

Remarkable therapeutic effectiveness was demonstrated by chloramphenicol in controlling the infections of these patients

COMMENT

In 3 patients, 2 with typhoid (in 1 instance complicated by amebiasis) and 1 with brucellosis, profound blood and marrow changes were observed during chloramphenicol therapy These changes consisted of a precipitous fall in the total leukocyte count, which occurred by the seventh day in 1 case and continued as long as the drug was administered The leukopenia resulted primarily from a decrease in the number of granulocytes in the marrow due to a maturation arrest without significant alteration in the monocytes or lymphocytes

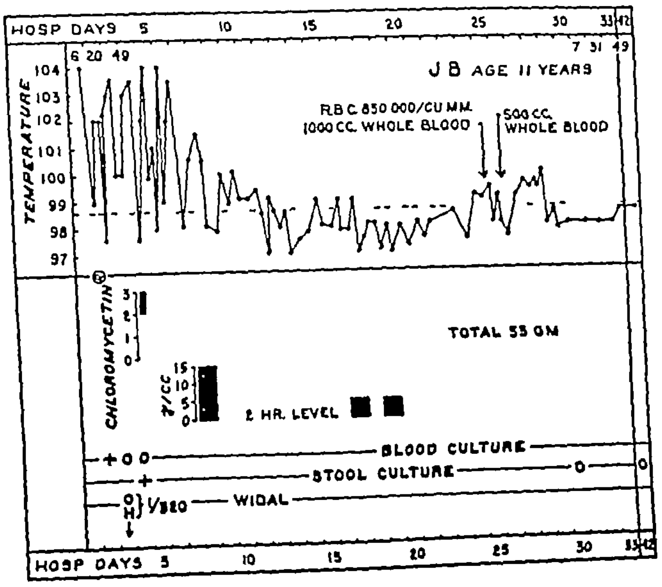

Fig 4 (case 1)—Summary of clinical data.

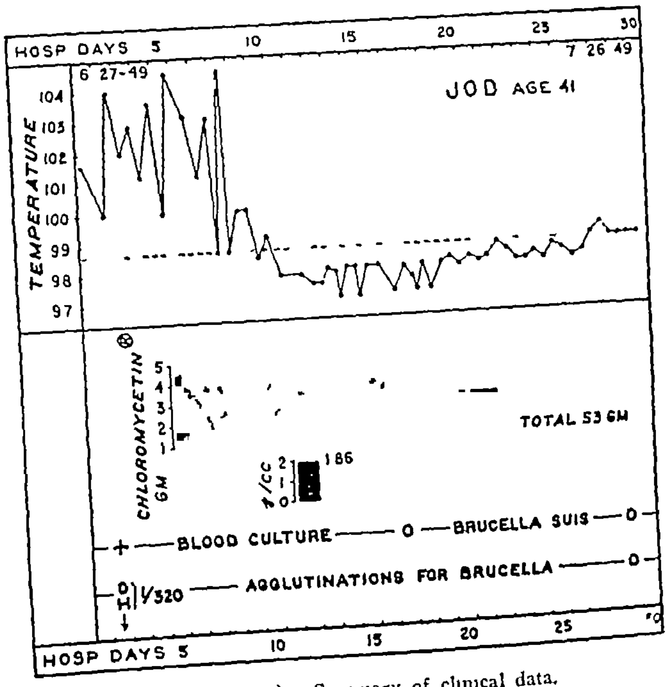

Fig 5 (case 2)—Summary of clinical data.

Severe anemia occurred in 1 case, with an erythroid maturation arrest in the marrow No significant changes occurred in the platelet count in the 1 instance in which this factor was studied Both marrow and blood changes were reversible, and an immediate rise of the white blood cell count followed discontinuation of therapy

Although pronounced hematologic changes have been described in typhoid [7] and no previous toxic effects have been ascribed to orally given chloramphenicol, the following evidence strongly suggests cause and effect relationship between the administration of the drug and the changes in marrow and blood

1 The leukopenia developed after chloramphenicol therapy was started in spite of definite clinical improvement

2 The absolute and relative granulocyte levels uniformly fell lower than those ordinarily observed in typhoid or brucellosis

3 The marrow in every instance showed a relative and absolute granulopenia with a maturation arrest

4 An immediate precipitous rise in granulocytes and leukocytes followed the discontinuance of chloramphenicol therapy

5 On the basis of the erythroid maturation arrest in the marrow, chloramphenicol was probably responsible, at least in part, for the fall in the number of red blood cells

These observations assume added importance in view of the recent work of Smadel and co-workers,[8] who advocate larger periods of chloramphenicol therapy in typhoid to prevent clinical and bacteriologic relapses The toxic manifestations of this drug in man will have to be studied more extensively before it can be considered an absolutely safe therapeutic agent This is particularly true in the instances in which large total dosages are employed over relatively short time periods, as in the 3 cases reported herein

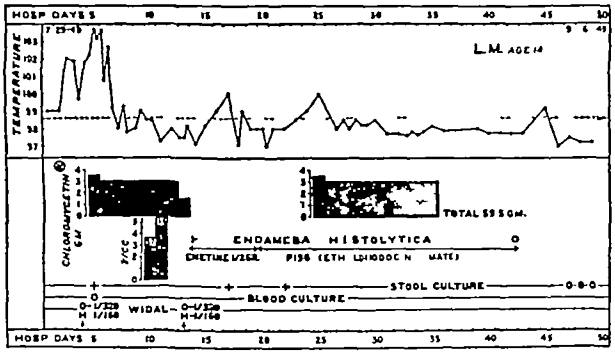

Fig 6 (case 3) —Summary of clinical data

SUMMARY

In three patients who were receiving chloramphenicol (chloromycetin®) in therapeutic doses, a severe, reversible granulopenia appeared in the blood and a granulocyte hypoplasia with both erythroid and granulocytic maturation arrest was found in the marrow

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[7] Matthews A R K and Browne H L Typhoid Fever with Associated Pneumococcus *Pneumonia and Aplastic Anemia* West Virginia M J **33** 1 (Dec.) 1937 Rosenblum A H Typhoid and Paratyphoid Fever in Immunized Subjects Ann Int Med. **31** 235 (Aug) 1949

[8] Smadel J E Woodward T E and Bailey C A Relation of Relapses in Typhoid to Duration of Chloramphenicol Therapy J A M.A **141** 129 (Sept. 10) 1949

Groups and Clinics —The ethical principles actuating and governing a group or clinic are exactly the same as those applicable to the individual As a group or clinic is composed of individual physicians each of whom, whether employer, employee or partner, is subject to the principles of ethics herein elaborated, the uniting into a business or professional organization does not relieve them either individually or as a group from the obligation they assume when entering the profession —Section 3, Chapter I of the Principles of Medical Ethics of the American Medical Association.

AUREOMYCIN TREATMENT OF MENINGITIS DUE TO BACILLUS PYOCYANEUS AND BACILLUS AEROGENES

Report of Two Cases with Recovery

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During the brief period which has elapsed since aureomycin and chloramphenicol were added to the impressive group of potent and relatively nontoxic antibiotics, their usefulness has been established in the treatment of various viral, rickettsial and bacterial maladies Certain infections, such as those reported in this paper, are observed so rarely that it is impossible for any one observer to adequately evaluate the efficacy of these newer antibiotics By necessity one must, therefore, resort to reports of single cases This report summarizes observations made on 2 patients who were treated with aureomycin for bacterial meningitis, which was caused in one by Bacillus pyocyaneus (Pseudomonas aeruginosa), and in the other by Bacillus aerogenes (Aerobacter aerogenes) After aureomycin therapy both patients recovered from the infection

REPORT OF CASES

Case 1 —J U a 9 year old boy weighing 32 Kg, was admitted to the Children s Hospital on March 3 1949 Clinical and radiographic studies revealed a tumor of the spinal cord A dorsolumbar laminectomy performed on May 5 revealed an intramedullary lipoma extending from the level of the eleventh dorsal vertebra to the second lumbar vertebra Since it was impossible to remove the extensive neoplasm without causing serious neurologic defects a decompressive laminectomy was done A free flow of cerebrospinal fluid was obtained, the dura was left open and the wound was closed in the usual manner For prophylactic purposes penicillin was administered (300,000 to 400 000 units daily)

On May 17, the twelfth postoperative day, a cerebrospinal fluid leak developed and the boy presented signs and symptoms of meningeal irritation Examination of cerebrospinal fluid obtained by aspiration of the wound revealed numerous gram-negative rods and rare gram-positive cocci on culture B pyocyaneus was isolated The fluid obtained two days later was grossly cloudy and contained numerous bacteria, there were 2,400 leukocytes per cubic millimeter, mostly polymorphonuclear cells

In view of the bacteriologic observations, streptomycin (3 Gm intramuscularly each day) and sulfadiazine (6 Gm. orally each day) were administered. Because this strain of B pyocyaneus subsequently was found to be highly resistant to streptomycin, this drug was discontinued and treatment with aureomycin (3 Gm orally each day) was begun on May 22 Sulfadiazine therapy was also discontinued at that time The oral ingestion of aureomycin was associated with severe nausea and frequent emesis Therefore, the drug was administered intravenously (0 1 Gm diluted in 100 cc. of sixth molar sodium lactate injection twice daily) from June 13 until June 20 and rectally (3 Gm daily) from June 13 until June 22

On May 21 an attempt to close the cerebrospinal fluid leak failed, but on May 31 surgical repair was successful Decompressive cisternal taps were then done on several occasions It was not until June 11 that the culture of the cerebrospinal fluid became sterile, and all subsequent specimens remained

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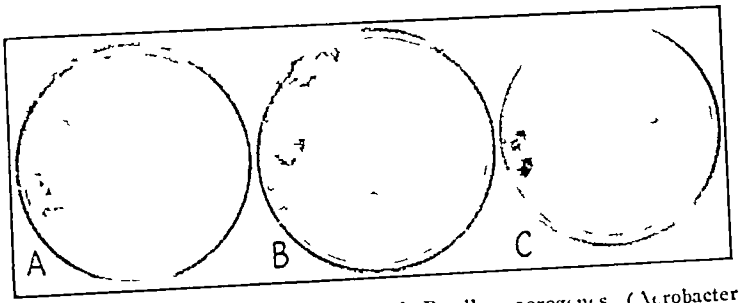
From the Departments of Bacteriology Neurosurgery and Pediatrics of the Children s Hospital and of the University of Buffalo School of Medicine.

Aureomycin hydrochloride for parenteral use was supplied by Lederle Laboratories Division American Cyanamid Company through Dr Benjamin W Carey sterile The child showed clinically, as he had on admission, the neurologic abnormalities associated with tumor of the spinal cord Recovery from the meningitis is attributed, in part or entirely, to the administration of aureomycin

Case 2—D S, a 2 day old boy weighing 4 Kg, was admitted to the Children's Hospital on June 10, 1949 for surgical repair of a sacral meningomyelocele Neurologic examination showed normal conditions, and the small meningomyelocele was epithelized and free of infection The lesion was repaired on June 21 On June 28, the seventh postoperative day, leakage of cerebrospinal fluid from the wound was noticed Three days later the skin wound was reopened No definite sinus was found leading to the spinal canal, so the skin was closed carefully The leak persisted for several days, and the existence of an Arnold-Chiari malformation was postulated, as the head increased in circumference from 14 to 15 inches (36 to 38 cm) between June 10 and July 5 Signs and symptoms of meningeal irritation developed on July 5, and a right ventricular tap yielded cloudy fluid Examination of the fluid revealed 11,750 leukocytes per cubic millimeter, 98 per cent of which were polymorphonuclear cells, 8 mg of glucose per hundred cubic centimeters, 290 mg of total protein per hundred cubic centimeters, scattered gram-negative bacilli on microscopic examination, and B aerogenes on culture This infection developed during prophylactic administration of penicillin (180,000 units daily) and sulfadiazine (0 2 Gm per kilogram of body weight subcutaneously each day)

On July 5, in view of the bacteriologic observations, the administration of penicillin was discontinued and treatment was begun with aureomycin, orally (100 mg per kilogram daily) and rectally (250 mg twice daily), and dihydrostreptomycin intramuscularly (50 mg per kilogram daily) On July 14 the oral dose of aureomycin was doubled because the infection was not controlled Ventricular cultures made daily were positive for the pathogen On July 14, 15, 16 and 17 dihydrostreptomycin (10 mg diluted in 20 cc of isotonic sodium chloride solution) was injected into either lateral ventricle On July 20, the intramuscular administration of dihydrostreptomycin was stopped Cultures of the ventricular fluid were still positive for B aerogenes From July 16 until August 3 chloramphenicol (6 Gm daily) was given orally in addition to aureomycin



Three twenty four hour cultures of Bacillus aerogenes (Aerobacter aerogenes) on Endo s medium, *A*, nonmucoid form prior to therapy, *B*, mucoid type during treatment, and *C*, nonmucoid type prior to sterilization of the cerebrospinal fluid

In view of the fact that the infection persisted in spite of all therapeutic measures used, aureomycin was administered intraventricularly and intrathecally Although there is potential danger in any form of intrathecal medication and particularly in the administration of this hitherto untried drug, an extremely small amount of aureomycin, 1 mg diluted in 1 cc of sixth-molar sodium lactate solution, was injected into the right lateral ventricle on July 18 There was no untoward reaction A few hours later 10 mg of aureomycin diluted in 10 cc of sixth-molar sodium lactate solution was injected into the same ventricle This form of therapy was repeated on July 19, 21, 22, 23, 24, 25, 26, 27 and 28 Since the organism could also be recovered from the spinal fluid, 1 mg of aureomycin diluted in 1 cc of sixth-molar sodium lactate injection was given intrathecally on July 21, 22 and 23 With the institution of this therapy the spinal fluid became sterile on July 21 and the ventricular fluid on July 26, and both remained sterile On August 4 the oral and rectal administration of aureomycin and the oral administration of chloramphenicol were discontinued The infant recovered completely from the infection

At the age of 2 months the occipitofrontal circumference of the head of this infant measured 16 inches (41 cm) On August 8 sodium indigotindisulfonate was injected into the right lateral ventricle and was later recovered from the lumbar subarachnoid fluid Obviously no major obstruction of the cerebrospinal fluid pathways existed

The strain of B aerogenes isolated from this patient presented a number of interesting characteristics When first recovered, the colonies, on medium of Endo and blood agar, were smooth and glistening but not particularly mucoid (A of the figure) They were similar to colonies of Escherichia coli The biochemical characteristics, however, were those of Aerobacter aerogenes, inasmuch as the strain failed to produce indol, had a negative reaction to the methyl red, had a positive Voges-Proskauer reaction and grew in Koser's citrate solution Moreover, on subculture it changed into an extremely mucoid type of organism characteristic of B aerogenes and Klebsiella pneumoniae (Friedlander's bacillus) It is interesting to note that a similar change took place in vivo cultures of cerebrospinal fluid obtained on subsequent occasions, between July 7 and July 23, revealed the mucoid type of organism (B of the figure) Repeated subcultures of this mucoid type resulted in dissociation back to the nonmucoid variety Interestingly enough, the last two positive cultures obtained from the patient on July 24 and 25 were of the nonmucoid type (C of the figure) Subsequent cultures remained sterile

Of further interest was the fact that even prior to the treatment of the patient with streptomycin, the organism was extraordinarily resistant to this antibiotic, growing readily in the presence of 40,000 micrograms per milliliter Fortunately, the strain was susceptible to aureomycin This new antibiotic was bacteriostatic in amounts as low as 3 micrograms per milliliter and bactericidal in concentrations of 100 micrograms per milliliter The strain did not become substantially more resistant to aureomycin On the basis of these observations it is reasonable to assume that the streptomycin therapy could not have been of much avail in the treatment of this particular patient

COMMENT

In order to evaluate the role of aureomycin in the recovery of these 2 patients, it is necessary to know the outlook for this type of infection in the absence of specific therapy Although the literature on meningitis caused by B pyocyaneus[1] and Esch coli[2] has been reviewed competently on different occasions, it is not possible to determine the fatality rates accurately This is due to the fact that these surveys are based largely on reports of isolated cases, particularly those in which recovery took place Obviously, then, the fatality rates of these rare forms of meningitis must have been even higher in the past than appears from these surveys

In 1936, Evans,[1] on the basis of a review of 42 cases of meningitis caused by B pyocyaneus, estimated the fatality rate to be approximately 50 per cent It is evident from the observation of these patients prior to the era of modern chemotherapy that this type of meningitis tended to be subacute rather than fulminating and that recoveries were not as unusual as they are in meningitis due to such organisms as pneumococci and Hemophilus influenzae Since 1936, a number of other reports on meningitis caused by B pyocyaneus have appeared in the literature[3]

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[1] Evans, F L Primary Meningitis Caused by Pseudomonas Aeruginosa (Bacillus Pyocyaneus), M Rec **114** 111 (Aug 5) and 172 (Aug 19) 1936

[2] Barrett G S Rammelkamp C H, and Worcester, J Meningitis Due to Escherichia Coli Am J Dis Child **63** 41 (Jan) 1942

[3] (*a*) Cairns H Penicillin in Head and Spinal Wounds, Brit J Surg **32** 199 (July) 1944 Botterell, E H and Magner, D Meningitis Due to Pseudomonas Pyocyanea Penetrating Wounds of Head Lancet **1** 112 (Jan 27) 1945 Evans, F T Infection from Spinal Analgesia Warning Lancet **1** 115 (Jan 27) 1945 Kremer, M Meningitis After Spinal Analgesia, Brit M J **2** 309 (Sept 8) 1945 (*b*) Radke, R A, and Cunningham G C A Case of Meningitis Due to Pseudomonas Aeruginosa (Bacillus Pyocyaneus) and Neisseria Flavescens with Recovery J Pediat **35** 1 and 99 (July) 1949 (*c*) Vuylsteke C A Pseudomonas Pyocyanea Meningitis Following Spinal Anesthesia, Brit M J **1** 179 (Feb 1) 1947

It may be recalled that this type of meningitis may be the result of contamination at the time of lumbar puncture, spinal anesthesia, trauma or operative procedures involving the brain and spinal cord In other instances it originates from foci of infection such as otitis media In still other cases it represents one of the complications of bacteremia or sepsis In the past, when recovery has taken place, usually after a fairly long period of weeks and months, it was attributed to drainage of the cerebrospinal fluid administration of sulfonamide drugs and, more recently, to therapy with streptomycin [3b] In the case reported here aureomycin played a significant role in combating the infection

Concerning meningitis caused by members of the Esch coli and B aerogenes group, Barrett, Rammelkamp and Worcester [2] in 1942 reviewed the available literature, which included 110 cases reported between 1887 and 1941 In only 8 of these cases was B aerogenes the causative agent, 7 patients succumbed to the disease and 1 recovered with complications The fatality rate of the group as a whole was 80 per cent, a figure which is obviously lower than it would have been had the survey not been based on numerous reports of isolated cases In an earlier study Ducasse [4] analyzed 35 cases of meningitis due to Esch coli, only 2 patients recovered So far as we are aware, the case reported here is the first instance of recovery from meningitis due to B aerogenes after aureomycin therapy Sterilization of the cerebrospinal fluid occurred readily after the intraventricular and intrathecal administration of the drug Although no immediate ill effects resulting from these therapeutic measures were noticed, use of this route of administration is not recommended unless all other methods fail to accomplish sterilization of the cerebrospinal fluid It is interesting to note that the strain of B aerogenes present at the onset of the meningitis was extraordinarily resistant to streptomycin, growing in vitro in the presence of 40,000 micrograms of streptomycin Fortunately, growth of the organism was inhibited or delayed by small amounts of aureomycin (3 micrograms or more), and the organisms were killed in vitro by 100 micrograms of the drug That aureomycin contributed largely to the overcoming of the infection can hardly be doubted

SUMMARY

Acute purulent meningitis due to Bacillus pyocyaneus (Pseudomonas aeruginosa) of the melanogenic type and meningitis due to Bacillus aerogenes (Aerobacter aerogenes) were observed in two children as complications of surgical exposure of the spinal cord In both instances the infection entered the meninges through a cerebrospinal fluid leak and occurred during prophylactic administration of penicillin Both strains were susceptible to aureomycin, though the strain of B aerogenes was extraordinarily resistant to streptomycin Recovery from the meningitis can be attributed largely to aureomycin therapy

The patient with meningitis caused by B pyocyaneus received the drug orally, rectally and intravenously Aureomycin was given to the other patient orally, rectally, intrathecally and intraventricularly No immediate ill effects were noticed from the intrathecal or intraventricular administration of aureomycin in the dosage employed We believe that this route of administration should be resorted to only if all other routes of therapy fail

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[4] Ducasse P G Meningite à colibacilles chez le nourisson Thèse, Bordeaux 1925 1926

VENTILATION IN THE FLOW OF MEASLES AND CHICKENPOX THROUGH A COMMUNITY

Progress Report, Jan 1, 1946 to June 15, 1949, Airborne Infection Study Westchester County Department of Health

MILDRED WEEKS WELLS M D
and
WILLIAM A HOLLA M D
Westchester County N Y

During the past decade, increasing attention has been given to the theory that indoor air is a vehicle of respiratory infection and to the logical sequence of such a theory, that the transfer from person to person of such infection can be reduced by increasing ventilation In the sense of actual replacement of vitiated air by fresh outdoor air, however, ventilation on a scale adequate to reduce disease incidence is impractical, interest has therefore been focused on the sanitary equivalent of ventilation, air disinfection

A study of air disinfection in certain schools in and near Philadelphia demonstrated that the chances of transfer from child to child of the viruses of measles and chickenpox [1] within the classrooms had been decidedly reduced by radiant disinfection of air [2] Thus the physical factors governing bactericidal irradiation of air, on which the engineering design of installations is based, were sufficiently well understood to lead to dependable reductions in the transfer of these infections from person to person within the particular atmospheres in which the ultraviolet lights were placed Such a reduction in infections among members of groups remaining continuously within an irradiated atmosphere, as among children in irradiated hospital wards, would necessarily mean a reduction in the total number of cases

But schoolrooms are not the only places where school children contract air-borne infections They move about, and they carry infection from atmosphere to atmosphere with them Thus it was found in the Philadelphia study that the arteries through which measles and chickenpox flow to the individual child anastomose to an extent that even after the importance of the school in their spread had been decidedly lowered by radiant disinfection (as measured by cases secondary to classroom exposure), other exposures outside the school were sufficiently numerous to mask the benefits as measured by total cases

In January 1946 the Westchester County Department of Health undertook the next logical step to these studies, an investigation of all the channels of flow of measles and chickenpox through a suburban community and of the possibility of interrupting these channels by disinfection not only of school atmospheres but of other atmospheres shared by children of the community

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From the Westchester County Department of Health Director of Study (Dr Wells) and Commissioner of Health (Dr Holla)

Records were kept by Miss Mary Mathers and Mr Oscar Fossum systemized the servicing of the ultraviolet lights

This study was aided by a grant from the Milbank Memorial Fund and by equipment from the General Electric Company

[1] Measles and chickenpox were adopted as indexes of this transfer because infections contracted in the classrooms could be identified The incubation periods are clearcut, one attack confers a lasting immunity (thus largely limiting the population at risk to children) and exposures to these diseases are seldom so numerous that cases cannot be related to them with reasonable probability It was not possible thus to relate colds to exposures because of the shorter and less definite incubation periods the multiplicity of exposures in and out of the school and the confusion of patterns of spread resulting from inclusion of adults in the population at risk

[2] Wells M W Ventilation in the Spread of Measles and Chicken pox Within Schoolrooms J A M A **129** 197 (Sept. 25) 1945

Thus at the beginning of the Westchester Study the role of air as the medium through which the infections of measles and chickenpox were borne had been intensively studied But before this information could be applied to the practical objective of a dependable reduction in the incidence of these diseases in a community, it was necessary to know more of the children who carry infection from atmosphere to atmosphere and to form an appraisal of the importance of various atmospheres wherein children congregate in maintaining the dynamic spread [3] of infection through a community

PLAN OF STUDY

In a small suburban village as many places where young children congregate were to be equipped with ultraviolet lights as was practicable Obviously all such atmospheres could not be irradiated, but it was hoped that those essential to dynamic spread within the village could be covered That is to say, however often children were infected while outside the village or by visiting children from without the village, chain spread would not follow

Certain questions needed answers (1) Would disinfection of the atmospheres initially chosen for irradiation prevent dynamic spread within the village, (2) if not, did the evidence point to other atmospheres whose irradiation would accomplish this (especially was irradiation of homes indicated), and (3) if dynamic spread had been prevented, was this sufficient to reduce the total number of cases or would introductions from without the test area be so numerous as to mask the reduction? As to the children who carried infection from atmosphere to atmosphere, were their comings and goings entirely dependent on chance, or could influences be disclosed which would aid in preventing this traffic in infection?

Methods of Effecting Objective—1 Choice of Test Village Two Westchester County villages, one irradiated and one not, were to be compared Both were to be far enough north to escape complexities such as would impede tracing infections in the urban area near New York and White Plains but far enough south to escape the independability of introductions of measles and chickenpox in more rural areas further north Pleasantville, one hour by train from New York City, was selected to be irradiated and Mount Kisco, ten minutes farther north, to be the control As of Jan 1, 1946 the total and school populations were similar Pleasantville, 4,357 and 783, Mount Kisco, 5,811 and 870 Each village has a public school system, grades kindergarten to 12, and a parochial school, grades 1 to 8 Ventilation of all classrooms used for the susceptible younger children is by window Neither village has a large private school, though a few children from each village attend one just outside of Mount Kisco When the study was planned, it was considered immaterial in which village the ultraviolet lights would be installed It now seems that the choice was not so unrelated to the results as was then thought

2 Installation of Ultraviolet Lights During the first three months of 1946, ultraviolet lights were placed in all schools of Pleasantville, three of the Sunday schools, the Children's Room of the Library, the village motion picture theater and the Department of Health clinic rooms During the autumn of 1946 three churches were equipped, the Girl Scout and Boy Scout huts and the most patronized of the soda fountains Not until December 1947 was it possible to irradiate the Catholic Church Only one group has refused cooperation, the Christian scientists Although the village motion picture theater was one of the first places equipped with lights, the several designs have not been satisfactory because of an objectionable excess of visible light

Indirect fixtures containing 30 watt hot cathode germicidal lamps were mounted 7 feet (213 cm) from the floor on the end walls, on the basis of two units per typical classroom Expressed in the tentative terminology of the Society of Heating and Ventilating Engineers, the average intensity throughout the irradiated zone of a typical room was 19 milliwatts per square foot (19 microwatts per sq cm) or a total lethal irradiation of 61 foot-watts for the irradiated volume of 3,200 cubic feet Care was at all times taken to see that intensities at the working level were below the maximum specified by the Council of Physical Medicine of the American Medical Association for seven hour occupancy [4]

Technic of Judging Results—No satisfactory criteria for appraising results of air disinfection in reducing disease incidence among members of intermittent aggregations have been suggested An attack rate among susceptible persons, the effective contact rate, is a satisfactory measure of conditions facilitating or retarding the transfer of micro-organisms in a particular atmosphere at a particular time Comparison of effective contact rates in irradiated and unirradiated atmospheres is a measure of the effectiveness of the disinfection It is, however, a measure of a static incident in a particular atmosphere, in one place at one time

Even in a particular group sharing a particular atmosphere, changes effected over a series of exposures and reexposures to the disease are not so simply measured For direct comparison of attack rates among groups of susceptible persons, their initial number must be the same, for the infectees of one exposure become the infectors of the next and differences are compounded Under identical conditions of spread, that is, if with the first exposure the percentage of susceptible persons attacked should be the same, the number of cases would vary with the number of susceptible persons If the number reexposing the groups were greater, the next generation of infectees would be proportionately increased, and these differences would again be compounded When the dynamic epidemic was over, it would be found that the percentage of susceptible persons attacked would vary directly with the percentage originally susceptible (Children remaining susceptible at the end of one epidemic will, in subsequent epidemics, be members of more immune groups in which the attack rates will be lower, which may give a false impression of subclinical immunity)

Additional complexities arise if the observed groups occupy the disinfected atmospheres for regular but limited periods only (as in the case of schools) and recombine into other aggregations in their remaining time A reduction in the effective contact rate in any one of these groupings, indicative of adequacy of the disinfection, may or may not effect a reduction in total cases depending on the exposures outside the irradiated atmosphere, and the more involved epidemiologic question, where the cases were infected, becomes important

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[3] The term dynamic spread is used to mean infection maintained for a series of exposures within a particular group without reintroduction by exposure to persons outside the group Static infection, on the other hand implies infection by exposure to members of other groups or secondary to them, but *not* initiating chain spread within the group

[4] Ultraviolet Lamps for Disinfecting Purposes report of Council on Physical Medicine, J A M A **129** 1166 (Dec 22) 1945

How, then, can the effects of air disinfection in a community be evaluated? There is, as we know,[5] a critical density of susceptible persons in a population, the "threshold density of susceptibles," varying with each condition of spread, above which infection, if introduced, may spread and below which it will certainly die out This percentage susceptibility varies in an air-borne disease primarily with factors affecting ventilation, such as season and climate If air disinfection is indeed the equivalent of ventilation, the threshold density of susceptible persons should vary with it

This threshold can be conveniently determined in practice by plotting the fall in percentage of susceptibility of the group during an epidemic, usually on a logarithmic scale at weekly intervals The point of inflection of the curve (the percentage of susceptibility at which 1 case gives rise on the average to 1 case, i e, the peak of the epidemic) marks the threshold susceptibility Comparison of these threshold values is the best appraisal of a sanitary measure in preventing the dynamic flow of an infection, although other factors than the disinfection may exert an influence

The records of the Westchester Study have been simple a directory of all children (0 to 18 years of age) in each village (based on the annual child census taken by the villages as a check on school attendance), a questionnaire card of past attacks of measles and chickenpox, filled out by the mothers, detailed histories of all cases, focusing attention on the source (based on personal discussion with the mother), a "class history" of each school class, listing the pupils, dates of additions and withdrawals, the susceptibility to measles and chickenpox of each child, exposure of the class to either disease (i e, school attendance of a child within forty-eight hours of clinical onset), and the resulting cases School and Health Department records and personal interest of the parents in reporting cases have contributed to the completeness of the records

TABLE 1—*Susceptibility to Measles and Chickenpox*
as of Feb 15 1946

	Pleasantville					Mount Kisco				
		Susceptibility to Measles		Susceptibility to Chickenpox			Susceptibility to Measles		Susceptibility to Chickenpox	
Group	Total	No	%	No	%	Total	No	%	No	%
Preschool *	294	276	93 9	247	84 0	291	247	84.9	245	84.2
Kindergarten to grade 4	316	173	54 7	121	38.3	344	133	38 7	180	52.3
Grades 5 to 12	467	76	16 3	97	20 3	526	69	13 1	158	30 0

* Not including 27 infants on the Pleasantville census and 24 on the Mount Kisco census who were under 6 months of age since their susceptibilities were indeterminate

RESULTS

Initial Susceptibilities (Feb 15, 1946) —The first tabulation of susceptibilities (Feb 15, 1946) made it evident (table 1) that an epidemic of chickenpox was possible in Mount Kisco and one of measles in Pleasantville, unless the latter could be averted by air disinfection No case of either disease occurred from September 1945 until February 1946, hence, cases which occurred after the study began represented the total for the academic year

Incidence of Measles and Chickenpox—During the forty-two months covered by this report (January 1946 to June 1949), cases of measles and chickenpox have numbered

Measles, Pleasantville 0,1 9,15,14 9,5,0 0 0 0 0,0 1,9,27 4,4,0,1,0, 0,0,0 1,0,1,3,59,44,4 3,0,0,0,1,2,0,0 0 1,0

Measles, Mount Kisco 0,0,0,4 8,10,4,1,0,1,1,0,1,0,2,1,0,1,0,0,1,1, 0 0,0,0,0,0,23,103,42 1,1,0,0,1,1,3,2,12,3,0

Chickenpox, Pleasantville 0 0 3 0,7,14,4,1,0 0 2,0,3,5,6,6,0,0,0,0,1, 3,4,3,3 3,0,2,5,3,1,0,0,2,0,0,3,3 3,6,8,0

Chickenpox Mount Kisco 0,4,11,13 77,16,0,0,1,1,1,7,14,13,6,5,4, 0 0,0 0,0,0,0 0,2 4,0 5,0,1,0 0,2,1,1,4,6,41,47,11 0

In tables 2 and 3 cases are classified by school years, by the age group to which the child belonged and the probable source of the infection In figures 1 and 2 the monthly levels of susceptibility of the preschool children over 6 months of age and of the kindergarten to grade 4 (inclusive) group are shown graphically The natural rise in susceptibility levels incident to births and advance into older age groups is offset by the slight falls caused by sporadic cases and the sharp drops in times of epidemics

Certain features in connection with these cases deserve comment

1 Jan 1, 1946 to Aug 31, 1946 Measles The spring of 1946 was a "measles year" in New York City and the lower part of Westchester County In view of the relatively low susceptibility of the kindergarten to grade 4 group in Mount Kisco (38 8 per cent) spread was not expected, and 27 cases spread over a period of six months presented the typical pattern of a contagious disease working against the resistance of a high immunity In Pleasantville, however, 55 2 per cent of this group and 94 6 of the preschool group were susceptible From February until June the disease was introduced into Pleasantville without initiating chain spread Twenty-two children exposed fourteen different classes (ten of the exposures on the day of onset), causing only 11 secondary cases In spite of the effectiveness of the ultraviolet lights in classrooms and presumably in other places where the results of exposures could not be determined, Pleasantville had, before the season was over, 52 cases of measles with a maximum of 15 cases in one month, April Certainly this static pattern (repeated introductions and small episodes, without chain spread) was not typical of measles in a highly susceptible community bombarded with introductions in a measles year The drop in susceptibility of the kindergarten to grade 4 group from 54 7 to 49 4 per cent does not define a "threshold susceptibility," for spread was never dynamic in the village

Chickenpox The epidemic of chickenpox materialized in Mount Kisco, reaching its peak in May It was centered in the parochial school, which was understandable, for susceptibility was high in the kindergarten to grade 4 group (65 0 per cent) and the school is constantly overcrowded, as is also the parochial school of Pleasantville Of the 67 susceptible village children in the kindergarten to grade 4 group, 61 contracted the disease in an explosive outbreak Eleven of the 30 susceptible children in the grade 5 to 8 (inclusive) group also were infected Of the 34 preschool children with the disease, 25 were exposed at home by parochial school pupils Thus in 97 of the 121 cases in Mount Kisco the children either attended this school or were exposed at home by its pupils

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[5] McKendrick A G The Dynamics of Crowd Infection Edinburgh M J 47 117 1940

TABLE 2—*Total Cases of Measles by Groups, with Presumptive Sources Indicated*

Age Group	Number of Cases	Exposed in: Home and Class room	Exposed in: Class room, not Home	Exposed in: Home, not Class room	Exposed in: Not Home, not Class room
		Pleasantville, Irradiated			
Jan 1 1946 to Aug 31, 1946					
Preschool	15			9	6
Public Kindergarten to 4	30	2	11	10	7
Public 5 to 8	7	0	1	1	5
Public 9 to 12	1	0	0	1	0
Sept 1 1946 to Aug 31, 1947					
Preschool	18			7	11
Public Kindergarten to 4	1	0	0	1	0
Public 5 to 8	3	0	0	0	3
Parochial, 1 to 4	20	5	13	0	2
Parochial, 5 to 8	3	0	0	1	2
Adult	1			1	0
Sept 1, 1947 to Aug 31 1948					
Preschool	53			22	31
Public, Kindergarten to 4	45	4	20	6	15
Public 5 to 8	7	0	0	1	6
Parochial 1 to 4	6	0	2	3	1
Parochial 5 to 8	2	0	0	0	2
Adult	2			1	1
Sept 15 1948 to June 15 1949					
Preschool	1			1	0
Public Kindergarten to 4	1	0	0	0	1
Public 5 to 8	1	0	0	0	1
Parochial Kindergarten to 4	1	0	0	0	1
Total	218	11	47	65	95
Percentage		5 0	21 6	29 8	43 6
		Mount Kisco, Unirradiated			
Jan 1 1946 to Aug 31, 1946					
Preschool	14			2	12
Public Kindergarten to 4	9	0	1	0	8
Parochial, Kindergarten to 4	4	0	0	1	3
Sept 1, 1946 to Aug 31, 1947					
Preschool	4			1	3
Public Kindergarten to 4	3	0	0	0	3
Sept 1, 1947 to Aug 31 1948					
Preschool	50			26	24
Public, Kindergarten to 4	67	3	44	2	18
Public 5 to 8	2	0	0	1	1
Parochial, Kindergarten to 4	47	2	27	5	13
Parochial, 5 to 8	3	0	0	3	0
Adult	2			1	1
Sept 1, 1948 to June 15, 1949					
Preschool	8			3	5
Public Kindergarten to 4	1	0	0	0	1
Parochial, Kindergarten to 4	8	0	3	2	3
Parochial, 5 to 8	4	1	1	0	2
Adult	2			0	2
Total	228	6	76	47	99
Percentage		2 6	33 3	20 6	43 4

The susceptibility of the kindergarten to grade 4 group of the parochial school fell from 65 0 to 15 5 per cent Susceptibility of all children of this group in Mount Kisco fell from 52 3 to 35 2 per cent, a fall indicating a threshold susceptibility of about 44 per cent for this group during May and June

Repeated exposures to chickenpox of Pleasantville children failed to start an epidemic, as was to be expected from the low susceptibility, regardless of any benefits from air disinfection

2 Sept 1, 1946 to Aug 31, 1947 The second year of the project was notable only for a small outbreak of measles in the Pleasantville parochial school When the Sunday schools were equipped with ultraviolet lights, it was realized that there was no equivalent of this grouping in the Catholic Church and that to cover the younger children lights should be placed in the church itself However, it was impossible at that time to obtain permission to do this

On March 18, 1947 a third grade pupil of the school contracted measles Fifteen cases developed, apparently secondary to this case Two things seemed odd about the secondary cases First, although 8 of the 15 children with secondary cases were in the patient's classroom, 7 were in the first and second grades, sharing a different classroom, this suggested that the infections had been contracted elsewhere than the classroom Second, of the 37 susceptible children in these two classrooms, 25 lived in the village of Pleasantville and 12 in adjacent villages These villages each have a separate church but are served by one school Yet every one of the 15 children with secondary cases lived within the village Investigation revealed that during the entire month of March the Pleasantville children had been practicing in the unirradiated church for the Easter services (April 6) and for the first communion (April 13, 1947) Out of town children, who attended churches in their own villages, did not participate in these church practice periods but remained in one room of the irradiated school Even in later cases, only 2 out of town children contracted measles

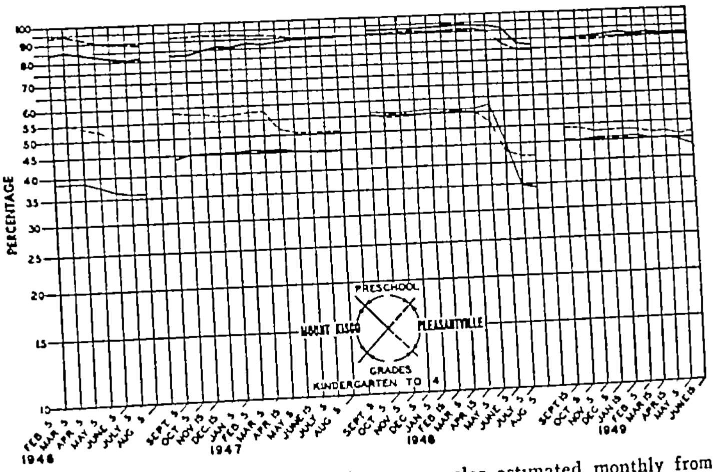

Fig 1 —Percentage of susceptibility to measles estimated monthly from Feb 15 1946 to June 15, 1949

The most dramatic episode of the study is the fact that these cases did not initiate dynamic spread within Pleasantville, although the susceptibility of the kindergarten to grade 4 group was, when the outbreak was over, still over 50 per cent and that of the preschool group 90 per cent

3 Sept 1, 1947 to Aug 31, 1948 The third year of the study was marked by the only failure of the ultraviolet lights to prevent dynamic spread within Pleasantville At the beginning of the year the villages were equally susceptible to measles—56 1 and 56 2 per cent of the kindergarten to grade 4 groups, 90 5 and 92 1 per cent of the preschool children in Pleasantville and Mount Kisco reporting no previous attack By analogy to the experience with chickenpox in Mount Kisco, this percentage seemed more than high enough to support an epidemic

In January a Pleasantville child exposed a first grade, 20 of whose pupils were susceptible, without a further case A second case occurred March 15 again without initiating spread The disease was once more introduced in the middle of April A few random cases followed for two exposures, then flared into an explosive epidemic, with 59 cases in May and 44 in June These cases are summarized in table 2 Of the year's total of 115 cases, 22 children were exposed in irradiated classrooms during May and June, the only serious breakdown of the effectiveness of ultraviolet lights during the course of the study Ultraviolet rays are known to be minimally effective in air of high relative humidity (above 60 per cent saturation) Since the Weather Bureau reported that May 1948 was the wettest month since 1908 in New York City, this seemed a logical explanation of the outbreak The susceptibility of the kindergarten to grade 4 group of Pleasantville fell from 55 0 per cent on April 15 to 43 0 per cent on June 15 indicating a threshold susceptibility for the group of slightly under 50 per cent during May and June with *the lights known to be working inefficiently*

Not a case of measles occurred in Mount Kisco from October 1947 until May 8, 1948 In spite of this seasonally late introduction, an explosive outbreak followed Twenty-three cases in May, 103 in June and 42 in July made this the sharpest epidemic we have experienced Of the 171 cases for the year 114 (66 7 per cent) were in the kindergarten to grade 4 group and 109 (63 7 per cent) in the kindergarten, grade 1 and grade 2 Seventy-one of the 114 cases in the kindergarten to grade 4 children were due to classroom exposure Between May 15 and July 15 the susceptibility of this group fell from 57 1 to 34 8 per cent, a threshold susceptibility in May and June of about 45 per cent, a figure close to the percentage estimated for chickenpox during the same months[6]

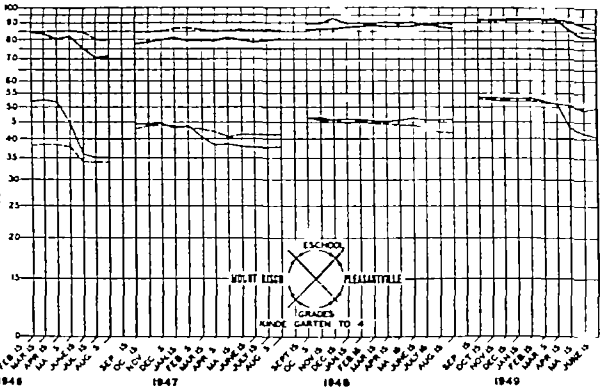

Fig 2—Percentage of susceptibility to chickenpox estimated monthly from Feb 15 1946 to June 15 1949

4 Sept 1, 1948 to June 15, 1949 The fourth winter of the project witnessed a most successful demonstration of the power of radiant disinfection to prevent dynamic spread Two villages, Thornwood to the south and Chappaqua, situated between Pleasantville and Mount Kisco, had been added to the study as additional controls All three control villages had severe epidemics of chickenpox, while Pleasantville remained relatively free There were 25 cases in Pleasantville, 113 in Mount Kisco, 174 in Chappaqua and 52 in the much smaller village of Thornwood

The declines in susceptibility of the kindergarten to grade 4 groups were Pleasantville, 53 0 to 49 9 per cent, Mount Kisco 53 7 to 40 8 per cent, Chappaqua, 44 6 to 22 3 per cent, and Thornwood, 43 8 to 30 9 per cent Although Pleasantville was surrounded by the epidemic area and although 11 of the 25 children with chickenpox attended school in the infective stage of the disease (5 of them on the day of onset), the village did not have a dynamic epidemic and no threshold can be estimated The threshold susceptibility in Mount Kisco was about 47 per cent, a figure somewhat higher than was estimated in the 1946 epidemic The susceptibility of the kindergarten to grade 4 group in Chappaqua fell

Table 3—*Total Cases of Chickenpox by Groups, with Presumptive Sources Indicated*

Age Group	Number of Cases	Exposed in: Home and Classroom	Classroom not Home	Home not Class room	Not Home not Classroom
		Pleasantville Irradiated			
Jan 1 1946 to Aug 31 1946					
Preschool	11			7	4
Public Kindergarten to 4	14	1	8	2	3
Public 5 to 8	1	0	0	1	0
Public 9 to 12	1	0	0	0	1
Parochial 1 to 4	2	0	0	0	2
Sept 1 1946 to Aug 31 1947					
Preschool	9			8	1
Public Kindergarten to 4	7	0	2	2	3
Public 5 to 8	2	0	0	2	0
Public 9 to 12	2	0	0	0	2
Adult	2	0	0	0	2
Sept 1 1947 to Aug 31 1948					
Preschool	8			5	3
Public Kindergarten to 4	16	2	3	4	7
Public 5 to 8	3	0	0	2	1
Public 9 to 12	1	0	0	1	0
Sept 1 1948 to June 15 1949					
Preschool	10	0	0	3	7
Public Kindergarten to 4	6	0	0	2	4
Public 5 to 8	2	0	0	1	1
Public 9 to 12	3	0	0	2	1
Parochial Kindergarten to 4		0	0	0	2
Adult	2	0	0	1	1
Total	104	3	13	43	45
Percentage		2.9	12.5	41.3	43.3
		Mount Kisco Unirradiated			
Jan 1 1946 to Aug 31 1946					
Preschool	34			25	9
Public Kindergarten to 4	9	0	3	1	5
Public 5 to 8	2	0	0	0	2
Public 9 to 12	2	0	0	1	1
Parochial Kindergarten to 4	61	7	37	4	13
Parochial 5 to 8	11	1	4	2	4
Adult	2			2	0
Sept 1 1946 to Aug 31 1947					
Preschool	18			11	7
Public Kindergarten to 4	32	1	16	4	11
Public 5 to 8	2	0	0	1	1
Sept 1 1947 to Aug 31 1948					
Preschool	7			0	7
Public Kindergarten to 4	3	0	0	0	3
Parochial Kindergarten to 4	2	0	1	0	1
Sept 1 1948 to June 15 1949					
Preschool	53			30	23
Public Kindergarten to 4	11	0	3	2	6
Public 5 to 8	4	0	0	0	4
Parochial Kindergarten to 4	42	2	34	2	4
Parochial 5 to 8	2	0	1	1	0
Adult	1			1	0
Total	298	11	99	87	101
Percentage		3 7	33.2	29.2	33.9

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[6] The epidemic of measles in Mount Kisco followed closely an even more explosive outbreak of rubella (German measles) most of the latter cases occurring in March and April Pleasantville escaped this epidemic presumably because of the earlier introduction when indoor air was dried by artificial heat Since the beginning of the study cases of rubella have numbered

	Pleasantville	Mount Kisco
Jan 1 1946 to Aug 31 1946	7	26
Sept 1 1946 to Aug 31 1947	3	1
Sept 1 1947 to Aug 31 1948	12	169
Sept 1 1948 to Aug 31 1949	34	41

In a continuing program the objective will be to center in one village (1) the prevention of dynamic spread which has been effected in Pleasantville during the colder months and (2) the spacing out of introductions of infection by an irradiated barrier between the test village and the reservoir of infection, as was unintentionally done in Mount Kisco The less frequent the introductions of infection, the smaller the chance that one will occur during the brief periods of high relative humidity of indoor air and curtailed ventilation

Specifically this will be attempted by enlarging the irradiated area to include several villages, the more southerly acting as barriers to introductions of infection and all villages in the irradiated area being protected from dynamic spread within More extensive coverage of groups within the irradiated villages is not planned because it is unnecessary during the colder months and because it would be impractical to maintain intensities of ultraviolet light throughout the year to insure protection during the potential breakdowns of late spring and early autumn

Hope of the practicality of radiant disinfection of air as a general sanitary measure in ventilation lies in the fact that its extension proceeds with the law of increasing returns

FATALITIES FOLLOWING CURARE

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The use of curare in clinical medicine has become widespread It has become especially useful in anesthesiology for augmenting relaxation during surgical operations and in psychiatry for softening the convulsions of shock therapy Up to the present time a few scattered reports of fatalities following the use of curare have appeared in the literature In some of these fatalities the administrator has been at fault in that proper artificial respiration was not employed after respiratory arrest Writers have stressed the dangers of apnea subsequent to curarization and have emphasized the methods of prevention However, some of the deaths following the use of curare may be due to a side action of the drug and may not be preventable by present methods of treatment In this type of accident artificial respiration with a good airway and other resuscitative measures are carried out correctly to no avail This paper will report 3 fatalities and 1 near fatality following the use of curare in anesthesia and will summarize similar cases from the recent literature

REPORT OF CASES

Case 1—A woman, aged 56, who had hypertension underwent an operation for the relief of partial intestinal obstruction due to adhesions[1] She received morphine sulfate ⅙ grain (10 mg) and atropine 1/150 grain (0 4 mg) as premedication The induction and maintenance of anesthesia were with cyclopropane, with the endotracheal absorption technic A moderate amount of ether was administered for five minutes after induction After the operation commenced 3 cc (60 units) of purified Chondodendron tomentosum extract (intocostrin®)[2] was administered Within a three minute period the respirations ceased, and artificial respiration was started The operation consisted of lysis of intestinal adhesions and was finished in one and one-half hours The patient at this time had a good color, the pulse was strong, with a rate of 84 per minute, and the blood pressure was 160 systolic and 90 diastolic. Artificial ventilation was carried out with oxygen for eight hours Throughout the day, despite intravenous fluid therapy with saline solution and plasma, there was a gradual deterioration in the circulation It was necessary to maintain vigorous artificial respiration with pure oxygen to prevent arterial anoxemia

Some resistance to inflation of the lungs was experienced throughout the entire period of artificial ventilation, but at one time it became extremely difficult to inflate the lungs Bronchial rales were heard on auscultation, but mucus could not be aspirated from the trachea Accordingly 1 cc. of epinephrine solution was given intravenously Immediately it became easier to inflate the lungs, and the bronchial rales disappeared But this effect was only transitory, and soon pulmonary inflation required as much force as it had before the administration of epinephrine

At autopsy the patient had bilateral pulmonary collapse without evidence of tracheobronchial obstruction The history and physical observations did not offer any evidence of myasthenia gravis, which contraindicates use of curare. No completely satisfactory explanation for the prolonged curarization and the massive pulmonary collapse could be made, but it was considered that in some manner they were most probably related to the administration of curare

Case 2—(This case was reported in *Lancet*, September 1946[3]) A woman aged 70 was admitted to the hospital two days after the onset of symptoms of acute appendicitis An hour after receiving morphine sulfate ⅙ grain and atropine 1/100 grain (0 6 mg) she was anesthetized with thiopental sodium (pentothal sodium®) 1 Gm and was given purified Chondodendron tomentosum extract 9 cc. (180 units) Oxygen was administered during the operation, which revealed an acutely inflamed but unruptured appendix with much induration of the surrounding tissues and a small adjacent collection of pus The appendix was removed, the pus mopped out and the wound closed. The first alarming signs, cyanosis and shallow respiration, appeared at the end of the operation, which had taken forty-three minutes The patient recovered somewhat with administration of oxygen and carbon dioxide, but she relapsed and, despite the injection of 1 cc of a 25 per cent solution of nikethamide and parahydroxyphenyl-isopropylmethylamine (veritol) 1 cc, died thirty-five minutes later Necropsy confirmed the presence of early peritonitis, which was most pronounced in the right iliac fossa The left lung was almost completely collapsed, and there was considerable collapse of the posterior halves of the right upper and lower lobes The lungs showed pronounced terminal congestion The heart muscle was a little friable. The kidneys were healthy Early toxic changes were seen in the spleen and liver The pathologist considered that death was due to toxemia and had been accelerated by respiratory failure due to curare.

With a good airway, as seems to have been present, and with oxygen the patient should have been able to eliminate the anesthetic agents to detoxify the curare in time Death appeared to be related not so much to the management of the anesthetized period as it was to some side action of curare

Case 3—(This case was reported by Dr John Gillies of Edinborough in a discussion on curare in the Royal Society of Medicine[4]) The patient, aged 8 weeks, had vomited repeatedly since three days after birth and was in poor condition. At operation pyloric hypertrophy was not found, but there were adhesions

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[1] Foregger, R, Rettig, H, and Conroy, C Massive Pulmonary Collapse Following Anesthesia with Curare, Wisconsin M J **48** 1004 (Nov) 1949

[2] Each cubic centimeter of intocostrin® contains an amount of purified Chondodendron tomentosum extract equivalent to 20 units The potency of curare is presently measured by the "head drop" bioassay in rabbits and is expressed in terms of a unit equivalent in physiologic activity to 0 15 mg of *d* tubocurarine chloride To estimate dosage in units 1 cc = 20 units = 3 mg

(Footnote 2 continued in next column)

There is confusion in the literature with regard to the expression of curare dosage especially of intocostrin® One unit was stated in earlier publications to be equal to 1 mg of standard drug (crude curare) however, 1 unit is equivalent to only 0 15 mg (20 units to 3 mg) of pure crystalline *d* tubocurarine chloride Throughout this paper, when the number of milligrams given by the authors (footnotes 8, 9, 11, 12 and 15) refers to the standard drug and is equivalent to the number of units of physiologic activity, the dosage has been expressed as units. Curare is a dangerous drug, and those who administer it should be aware of the danger and be guided by the dosage limitations and supplementary instructions which may be listed by the manufacturer and which are outlined in New and Nonofficial Remedies

[3] Annotation Death After Curare Lancet **2** 424 (Sept 21) 1946

[4] Discussion on Further Experiences with Curare, Proc. Roy Soc Med **40** 593 (Aug) 1947

extending from the second part of the duodenum to the liver and lateral portion of the abdominal wall. Separation of the adhesions proved difficult, and, since kinking of the duodenum still persisted, a posterior gastroenterostomy was performed. The intravenous administration of *d*-tubocurarine chloride was continued slowly until a total of 5 mg. (33⅓ units) had been given. A profound effect of total paralysis of muscles, including the diaphragm, was achieved.

Throughout the operation, which lasted forty-five minutes, controlled ventilation of the lungs with oxygen was continued. Good oxygenation was maintained as evidenced by the color of the intestine. The pulse, visible in the mesenteric vessels was regular and the rate was steady at 110 per minute. Thirty minutes after closure of the abdomen spontaneous contractions of the diaphragm started, but the administration of oxygen by compression of the breathing bag was continued because pulmonary exchange was still inadequate. On two occasions when the mask was removed from the patient's face remarkable slowing of the pulse rate occurred. On reapplication of the mask the pulse rate was restored.

On the third occasion when this sequence of events was demonstrated, inflation of the lung was difficult and the heart stopped. Postmortem examination showed collapse of both lungs, which presented the appearance of fetal lungs and which did not float. *This case is of particular interest because no* other agents were administered. The accident may then more clearly be attributed to *d*-tubocurarine chloride.

It is pertinent that in the same meeting at which this case was reported the opening discussant stated that "anesthetic deaths due to purified Chondodendron tomentosum extract and *d*-tubocurarine have been reported, but postmortem findings have been published in only 1 case. In 2 cases death occurred several hours after the injection and in both of them there was massive pulmonary collapse."

Case 4.—(This case was reported by Riggs and Schlomer in *Diseases of the Nervous System*.[5]) Mrs. J. A., a white widow aged 53, suffering from manic depressive psychosis, was to receive electroshock therapy. Physical examination disclosed moderate obesity, a systolic murmur at the cardiac base and hypertension with a systolic blood pressure of 170 mm. of mercury. She had received electroshock therapy four times previously. After the fourth shock treatment she was found to have a fracture of the distal part of the humerus. The use of curare (purified Chondodendron tomentosum extract) was planned for the fifth treatment. The patient was extremely agitated before treatment and expressed the conviction that the process would prove fatal. She received 45 units of the curare preparation in two minutes and forty seconds. At this moment injection was discontinued because respiratory efforts became feeble and ineffective, deep cyanosis appeared and there seemed to be some degree of obstruction to the airway. The patient thrashed violently about for a few seconds. Veins had collapsed and an attempt to inject neostigmine methylsulfate intravenously was unsuccessful. She was placed in the prone position where artificial respiration was observed to be mechanically effective although the cyanosis was unrelieved. In addition she was pulseless. Two minutes later artificial respiration was interrupted long enough to make an intracardiac injection of 1 cc. of neostigmine methylsulfate in a 1:1,000 dilution accompanied with 25 per cent solution of nikethamide intramuscularly. Four minutes after this the heart beat was not audible, and more nikethamide was injected into the heart. After a further five minute period of artificial respiration during which there was no change in her condition, she was given a second intracardiac injection of neostigmine methylsulfate, accompanied with alphalobeline intramuscularly. Artificial respiration was continued for a total of thirty minutes. At this time efforts were abandoned, since the heart beat had not returned.

A complete postmortem examination was singularly unrevealing. There were no signs to suggest myasthenia gravis. Riggs and Schlomer ascribed death to cardiac failure of obscure origin because of the sudden cardiovascular collapse following the intravenous injection of curare. In the same paper they described 2 other patients exhibiting severe untoward reactions to curare and electroshock therapy.

Case 5.—(The following case is abstracted from a full report given by Dr. Duncan Holaday [his case 198] in *Anesthesiology*.[6]) The patient was a Negro woman aged 44 with mild hypertension, who was to have a fibromyomatous uterus removed. Premedication was with morphine sulfate ¼ grain (15 mg.) and scopolamine hydrobromide 1/200 grain (0.3 mg.). Anesthesia was induced with nitrous oxide and maintained with nitrous oxide and cyclopropane. Sixty units of curare (purified Chondodendron tomentosum extract) were given intravenously. Twenty units of the agent given ten minutes later failed to affect the respiration. However, fifteen minutes after this second dose, coincident with exploration of the abdomen the respirations became shallow and jerky. Artificial ventilation was started as the respiratory exchange became inadequate to maintain oxygenation. There was some resistance to ventilation, therefore a third dose of 20 units of curare was given intravenously five minutes later. Apnea became complete. Artificial ventilation was continued for an hour before adequate spontaneous respirations returned. The cyclopropane had been withdrawn after the onset of apnea. A final injection of 20 units of curare was given intravenously to facilitate closure of the peritoneum. The patient again became apneic and artificial ventilation was resumed. Since the diaphragm still remained paralyzed after completion of the operation, 1 cc. of a 1:2,000 dilution of neostigmine methylsulfate was given and the dose repeated after ten minutes. Manual compression of the breathing bag was continued. Slow shallow, jerky respiratory movements reappeared shortly but were of inadequate force to ventilate the lungs properly. During the operation the blood pressure remained 170 mm. of mercury systolic and 110 mm. of mercury diastolic and the pulse rate persisted at 92 beats per minute. Thirty minutes after the operation, the pulse became rapid and thready and the blood pressure was unobtainable. The pupils dilated. Nikethamide solution, 25 per cent, and caffeine and sodium benzoate were injected intravenously, but the patient failed to respond. The operation was a supravaginal hysterectomy lasting an hour and fifty-five minutes. No organic lesions were found at autopsy that might have been responsible for the death.

Holaday considered that the fatal outcome might have been a result of irreversible changes in the central nervous system which occurred during a period of anoxia that escaped the attention of the anesthetist or that it might have been the result of an unusual reaction to curare.

Case 6.—(The following case was submitted by Dr. Frank S. Yordy, Milwaukee.) An obese white man 48 years of age was to undergo an operation for refusion of the lumbar vertebrae. He had had several previous surgical operations following an initial operation for removal of protruded intervertebral disk. Eight months previous to the present operation he had had an attack of jaundice thought to be due to an injection of homologous serum. Preanesthetic medication consisted of morphine sulfate ⅙ grain and atropine 1/150 grain one hour before induction of anesthesia. Directly before the induction of anesthesia the blood pressure was 120 mm. of mercury systolic and 75 mm. of mercury diastolic and the pulse rate per minute was 82. Induction of anesthesia was performed with 0.5 Gm. thiopental sodium in 5 per cent solution followed by 12 mg. (80 units) of *d*-tubocurarine chloride. Oral endotracheal intubation was then performed without difficulty. A gauze pack was inserted into the throat around the endotracheal tube in an attempt to effect a gas-tight circuit. A mixture of nitrous oxide and oxygen was administered by means of the absorption technic using a flow rate of 1,000 cc. of nitrous oxide per minute and 500 cc. of oxygen per minute. The excess gas flow was used to overcome leaks in the system. After this the patient was placed in the prone position and the table was flexed. Pillows were placed beneath the shoulders and hips to allow for adequate pulmonary ventilation. The operation commenced twenty minutes after the induction of anesthesia. The blood pressure at this time was 120 systolic and 75 diastolic, and the pulse rate was 100 per minute. The patient's color was good. Shortly after the beginning of the operation he received an additional 1.5 mg. (10 units) of *d*-tubocurarine chloride and 150 mg. of thiopental sodium. A transfusion of 500 cc. of blood was started. Manual

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[5] Riggs, B. C., and Schlomer, G. M.: Hazards of Curarization Before Electroshock, Dis. Nerv. System 8: 383 (Dec.) 1947.

[6] Holaday, D. A.: Nitrous Oxide-Cyclopropane-Curare Anesthesia: A Review of Two Hundred Cases, Anesthesiology 7: 426 (July) 1946.

Central nervous system depressants, amobarbital sodium and cyclopropane decreased or abolished convulsions due to purified Chondodendron tomentosum extract The convulsions occurred in the presence of artificial respiration with oxygen

On the other hand, Girden[25] recently offered data to support the view that the electroencephalogram is undisturbed in curarized mammals Scott Smith[26] failed to find an anesthetic action of *d*-tubocurarine chloride when he received injections with large amounts of the drug The effect of curare alkaloids on the central nervous system is therefore a controversial matter

It has been known for many years that curare will produce bronchoconstriction[27] Massive pulmonary collapse has been noted in both animals and man[28] following the administration of curare The action of *d*-tubocurarine and curarine on the respiration was studied by Ranyard West[28a,b] Curarine caused the lungs of guinea pigs to retract, to decrease the amplitude of their movements and to blanch The lungs appeared to lose their elasticity, and they consistently required an increased pressure to produce adequate ventilation These appearances were assumed to indicate that curare causes a bronchial spasm Epinephrine caused the lungs to reexpand immediately and to become pink The effect however, was only transitory Postmortem examination of the lungs of curarized dogs[28a] showed a remarkable degree of general collapse The lungs appeared almost airless but could be inflated Curarized rabbits, killed before respiration was arrested, had collapsed, dark pink and almost airless lungs in contrast to the partly distended, light pink, air-containing lungs of a normal control animal In conclusion West thought that the sudden failure of respiration in curarization was due to pulmonary collapse Bronchospasm following curare administration has been noted in other investigations[29] Landmesser[29] has demonstrated bronchospasm following curarine, purified Chondodendron tomentosum extract and *d*-tubocurarine

The bronchospasm produced by curare is similar to that produced by histamine It has been shown that curare liberates histamine from body tissues[30] The bronchoconstriction of curare and histamine may be prevented by the administration of antihistaminic drugs such as tripelennamine hydrochloride or diphenhydramine hydrochloride[31] Atelectasis following release of histamine may also be alleviated by the use of diphenhydramine[32] The respiratory complications of curare may be relieved by intravenous administration of procaine hydrochloride, since it has been shown that procaine has antihistaminic and antiacetylcholinic properties[33]

SUMMARY AND CONCLUSIONS

Three fatalities considered to be due to a dangerous side action of curare are reported The literature is partially reviewed and found to contain references to 19 fatalities following the use of curare Several near fatalities are reported They are likewise considered due to the side action of the drug

The incidence of fatal reactions with curare is low, its value in medical practice assures continued usage The observations of this brief survey suggest that further study should be made so that suitable means may be found to counteract undesirable toxic reactions when they occur At the present time available knowledge suggests that the antihistaminic drugs and procaine may be helpful in treating the respiratory complications of curare

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UNINTENTIONAL ABORTION IN 1,497 PLANNED PREGNANCIES

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In an earlier publication[1] the contraceptive practices of 2,000 patients seen in private practice were presented In a subsequent paper[2] the time required for conception in 1,727 planned pregnancies was studied in detail The case histories in the foregoing studies were obtained at the initial office visit, usually at the eighth or ninth week of pregnancy All the patients were married residents of the Baltimore metropolitan area, over 99 per cent of them white and 3 of 5 Jewish The majority of the husbands were professional men, business executives or other types of white collar workers In all the cases reported in the second study[2] conception had been preceded by a period of contraception, which was discontinued to achieve pregnancy

In this contribution we shall report the outcome of pregnancy in 1,497 women The fetal outcome in 230 of the 1,727 pregnancies was unknown Either the women were undelivered when the data were abstracted and coded or they had moved elsewhere before delivery Table 1 shows that 1,364 of these 1,497 pregnancies resulted in a living child or twins that survived the neonatal period Nine babies, although born alive, died before they left the hospital, and 19 fetuses were stillborn The combined perinatal mortality was 20 per thousand live births This is a low ratio compared with a national average of about 40 for the white population in 1946 However, the number of cases involved (28) is too small to warrant further statistical analysis

One hundred and five pregnancies terminated spontaneously before the fetus had reached viability, or 1,000 Gm Since all pregnancies in this series were consciously planned, it appears reasonable to assume that the abortions were not preceded by any mechanical manipulation or the ingestion of medicinal abortifacients These 105 unintentional abortions are 7 0 per cent of all the pregnancies with known outcome Since some of the pregnancies with unknown outcome had actually been followed well beyond the twenty-eighth week but the infants had not yet been delivered when the data were abstracted, the incidence of abortion in this study is slightly overstated

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[25] Girden E The Electroencephalogram (EEG) in Curarized Mammals, J Neurophysiol **11** 169 (May) 1948

[26] Smith S M, Brown, H O Toman J E P, and Goodman, L S The Lack of Cerebral Effects of D Tubocurarine, Anesthesiology **8** 1 (Jan) 1947

[27] West, R The Action of Curarine on the Respiratory Mechanism, J Physiol **91** 437 (Jan) 1938

[28] (*a*) West R The Pharmacology and Therapeutics of Curare and Its Constituents Proc Roy Soc Med **28** 565 (March) 1935 (*b*) West.[27] (*c*) Footnotes 3 and 4

[29] Landmesser C M A Study of the Bronchoconstrictor and Hypotensive Action of Curarizing Drugs, Anesthesiology **8** 506 (Sept) 1947

[30] Alam, M, Anrep, G V, Barsoum, G S, Talaat M and Weminger, E Liberation of Histamine from the Skeletal Muscle by Curare J Physiol **95** 148 (Feb) 1939

[31] Poulsen H Anti Histaminica som antidot mod curarepraeparaters histamenlignende virking Nord med *41 627 (April 8)* 1949, abstracted, J A M A **141** 564 (Oct 22) 1949 Landmesser[29]

[32] Dreosti A F Lewis "H" Factor in Post Operative Lung Complications South African M J **21** 790 (Oct 25) 1947

[33] Frommel E, Favre M and Vallette, F L'action anti acetyl cholinique et anti histaminique des anesthesiques locaux (cocaine, novocaine percaine) etudiee à l'aérosol et par la méthode de la contraction de l'ileon du cobaye, Arch internat de pharmacodyn et de thérap **73** 355 (Feb 1) 1947

From the National Committee on Maternal Health (Dr Tietze) and from the Department of Obstetrics Johns Hopkins Hospital and the Department of Obstetrics and Gynecology Sinai Hospital (Drs. Guttmacher and Rubin)

[1] Guttmacher A F, Tietze C, and Rubin, S *Contraception Among* Two Thousand Private Obstetric Patients J A.M A **140** 1265 1268 (Aug 20) 1949

[2] Tietze C, Guttmacher, A F, and Rubin, S Time Required for Conception in 1,727 Planned Pregnancies, to be *published*

Our series does not include pregnancies terminated by abortion during the early weeks of gestation before the patients had visited the obstetrician's office to register for care We (A F G and S R) were only rarely called on to treat unregistered abortions Either they are uncommon in this population—or the aborting women sought no medical aid or were attended by other practitioners

Further information about incidence of abortion, based on the histories of 1,081 women who had been pregnant at least once prior to the current pregnancy,[1] is portrayed in table 2 Six hundred and ninety-eight of these 1,081 pregnancies followed the discontinuance of contraception, 255 were accidental, due to failure of contraception, and in 128 instances contraception had not been practiced Table 2 shows the outcome of the pregnancies immediately preceding the current one. The exceptional character of the group of 128 women whose current pregnancies were not preceded by the use of contraception is immediately apparent Not less than 46 per cent of the last preceding pregnancies of these women had resulted in unintentional abortion and an additional 9 per cent in stillbirth or neonatal death This shows clearly that child-spacing is the prevailing pattern in the population from which these patients are drawn A second or subsequent pregnancy is as a rule not immediately undertaken unless the preceding one had ended in failure

Table 1—*Distribution of 1,727 Planned Pregnancies by Outcome*

	Number	Percentage
Outcome unknown	230	13.3
Outcome known	1 497	86 7
Total	1 727	100.0
Living child	1 364	91 1
Neonatal death	9	6
Stillbirth	19	1.3
Abortion	105	7 0
Total	1 497	100 0

To a lesser degree this type of selection also operates between the two other groups of patients Since couples who were unsuccessful in their effort to produce living offspring are more likely to plan an additional pregnancy than those who were successful, the true incidence of unintentional abortion in the population from which our patients were drawn should be somewhere between 7 8 and 16 0 per cent of all pregnancies If the illegally induced abortions in table 2 are excluded, the minimum and maximum estimates for unintentional abortions increase to 8 4 and 16 7 per cent of all pregnancies terminated without interference The difference between these estimates and the 7 0 per cent observed in our series of 1,497 pregnancies would appear to be due to the inclusion of abortions in the early weeks of pregnancy before the patients had registered with the obstetrician

Table 3 shows that the incidence of abortion tended to increase rather steeply with the woman's age at the time contraception was discontinued, with her number of previous unintentional abortions and with the time required for impregnation after discontinuance of contraception These observations are statistically highly significant, the odds against a chance finding being 1 to 500 or more The correlations of incidence of abortion in the current pregnancy with duration of marriage, pregnancy order and the contraceptive method previously employed were not statistically significant

Table 2—*Distribution of 1,081 Second and Subsequent Pregnancies by Planning Status of Current Pregnancy and Outcome of Last Preceding Pregnancy*

Outcome of Preceding Pregnancy	Planning Status of Current Pregnancy: Contraception Not Used	Contraception Discontinued	Failure of Contraception
Number			
Living child	55	531	211
Stillbirth or neonatal death	11	28	8
Unintentional abortion	59	112	20
Induced abortion	3	27	16
Total	128	698	255
Percentage			
Living child	43 0	76 1	82 7
Stillbirth or neonatal death	8 6	4 0	3 1
Unintentional abortion	46 1	16 0	7.8
Induced abortion	2 3	3.9	6.3
Total	100 0	100 0	100 0

Table 3—*Number of Planned Pregnancies with Known Outcome and of Abortions, and Percentage of Abortions by Age of Woman Duration of Marriage Pregnancy Order History of Unintentional Abortion Contraceptive Method Used and Time Required for Conception*

	Number of Pregnancies	Number of Abortions	Percentage of Abortions
Age of woman			
15 to 24	357	15	4.2
25 to 29	644	40	6.2
30 to 34	354	31	8.8
35 to 39	127	14	11 0
40 to 44	15	5	33.3
Duration of marriage			
Less than 3 yr	517	29	5 6
3 to under 6 yr	518	41	7.9
6 yr or more	462	35	7 6
Pregnancy order			
First pregnancies	695	44	6.3
Later pregnancies	802	61	7 6
History of abortion			
No abortion	1,294	79	6 1
One abortion	159	16	10 1
Two or more abortions	44	10	22 7
Contraceptive method			
Condom	687	43	6.3
Diaphragm and jelly	611	45	7.9
Other or several	199	14	7 0
Time required for conception			
One to six months	1 187	67	5 6
More than six months	310	38	12 3
Grand total	1 497	105	7 0

Tests of Statistical Significance

	χ^2	*N*	*P*
Age of woman	15 16	3	002
Duration of marriage	2.51	2	.29
Pregnancy order	.53	1	.47
History of abortion	11 71	1	001
Contraceptive method	1.18	2	.55
Time required for conception	14.87	1	0001

In our material the age of the woman, a history of unintentional abortion and the time required for conception were all correlated. Nevertheless, it can be shown that the incidence of abortion in the current pregnancy followed each of these three variables even if the two others were kept constant and that the correlations remained statistically significant.

Women who had two of the "three strikes against them" ran a decidedly increased risk of having their current pregnancy end in abortion. The incidence of abortion was 18.9 per cent among the 37 women who were 35 years of age or older when they discontinued contraception and who also gave a history of previous unintentional abortion, 24.4 per cent among the 41 women in that age group who required more than six months to conceive, and 26.4 per cent among the 53 women (irrespective of age) with a history of abortion who took more than six months to conceive. There were only 13 women in our series with all three significant factors against them. They were 35 years of age or older, had one or more previous unintentional abortions and required more than six months for conception. Of this small group 5 (38.4 per cent) miscarried the current pregnancy.

By contrast only 9 (3.9 per cent) of the 230 women less than 25 years of age, without previous abortion, and who conceived during the first three months after discontinuance of contraception lost their current conceptus. If 351 additional women, 25 to 29 years of age, with otherwise identical histories are added, the number of abortions increases to only 27 in 581 pregnancies and the ratio to 4.6 per cent.

It is well known that unintentional abortion has a tendency to recur and that the risk of abortion is greater among older than among younger women. However, the relationship between the time required for the current conception and the likelihood of abortion has not to the best of our knowledge been previously observed. A possible explanation for the observed correlation is the assumption that the same pathologic condition or conditions which delayed conception were responsible for the abortion. Since the commonest cause of abortion appears to be defective germ plasm, it may be that this defect also retards conception.

SUMMARY

1. Among 1,497 successive patients who had abandoned contraception to achieve pregnancy fetal loss amounted to 0.6 per cent neonatal deaths, 1.3 per cent stillbirths and 7.0 per cent unintentional abortions, fetus less than 1,000 Gm.

2. The incidence of abortion was greatly increased when the woman was of advanced age, when there was a history of previous abortion and when an unduly long time was required for conception after the abandonment of contraception.

3. The unintentional abortion ratio among 230 women who were less than 25 years of age, had no previous abortion and conceived within three months was only 3.9 per cent.

4. Among 37 women who were at least 35 years of age, had a previous abortion but conceived promptly the incidence of abortion was 19 per cent.

5. Among 41 women who were 35 years of age, required more than six months for conception but had not aborted previously the incidence of abortion was 24 per cent.

6. Among 53 women (irrespective of age) with a history of unintentional abortion who required more than six months to conceive the incidence of abortion was 26 per cent.

7. Among 13 women, aged 35 or older, with the history of previous abortion, who required more than six months for conception the incidence of abortion was 38 per cent.

8. It is suggested that defective germ plasm not only is a cause of abortion but also may delay conception.

INSULOGENIC LIPODYSTROPHIES

Their Relationship to "Brittle" Diabetes and to Insulin Resistance

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Although isolated reports of the occurrence of insulogenic lipodystrophies have been appearing since 1926, the development of local areas of subcutaneous fat atrophy or of persistent hard, nodular swelling at the site of insulin injections is still generally ignored or lightly considered in most textbooks and monographs on diabetes mellitus.

In 1942 Marble and Smith[1] reviewed the literature and studied 500 unselected diabetic patients, almost one fifth of whom were found to have areas of lipoatrophy at the site of the insulin injections. After careful histologic studies and other investigations, they could prove no relationship to any of the factors involved in the administration of insulin except possibly that of repeated trauma.

In my personal experience the incidence of insulogenic lipodystrophies reaches close to 60 per cent of all diabetic patients who have been taking daily injections of insulin for periods longer than six months before coming to my attention. Two distinct types of lesions are observed, (*a*) the hypertrophic nodular type, usually but not always preceded by an inflammatory phase and the formation of hard, painless nodes with anesthesia but without other apparent changes of the overlying skin, and (*b*) the atrophic type, in which there is a gradual disappearance of the subcutaneous fat—frequently without an inflammatory phase—and a leathery and mummified appearance of the overlying skin, which also becomes anesthetic. Not infrequently the hypertrophic type undergoes gradual atrophy, with eventual change into the second type. The two types of lesions may be present in the same person.

REPORT OF CASES

The following 4 cases are representative of these two types of local lesions as well as of their probable relationship to "brittle" diabetes and to some forms of insulin resistance.

CASE 1 (*Extreme Example of Localized Lipoatrophy with Progressive "Insulin Resistance"*).—A middle-aged white woman, a known diabetic subject, had taken insulin for about twenty years and had taken daily injections of protamine zinc insulin for about ten years. When she was first instructed, she says, a nurse told her how to inject the insulin but nobody told her where to inject it. She experimented until she found that the skin of the internal aspect of the thighs, just below the groin, was soft and easy for her to inject. She never used any other area. When first seen by me, she had had years of self management, seldom having seen a physician in the meantime and with "no complaints until three years ago."

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[1] Marble, A., and Smith, R. M.: Atrophy of Subcutaneous Fat Following Injections of Insulin, Proc. Am. Diabetes A. 2: 173, 1942.

In the last three years she had increased her dose of protamine zinc insulin gradually from 20 to about 70 units daily, and she still had heavy glycosuria plus intense and increasing peripheral pains. The areas of the inside of her thighs where she injected the insulin were so atrophied that my closed fist could be inserted almost completely into each of these cavities. The skin was insensible, smooth, hard and strongly adherent to the underlying structures and the fat was completely absent. By instructing the patient to diversify the location of her injections I was able to reduce her insulin intake from 70 to 30 units daily and her diabetic neuropathy showed considerable improvement in a few weeks.

CASE 2 (*Another Example of Lipoatrophy and Insulin Resistance*).—A diabetic woman aged 60, known to be diabetic for sixteen years complained of weakness, intense progressive tiredness, pains in both legs and at the base of her neck, and inability to reduce the level of her glycosuria despite high insulin doses. Various glycemias were reported between 0.200 and 0.400 per cent, with a high renal threshold above 0.250 per cent.

Her insulin requirement had increased particularly in the last seven years from about 20 to 30 units to a total of 240 units in two to three depots daily. There were smoothly depressed areas of lipoatrophy on her arms, with a mummified appearance of the insensitive skin. After she was instructed in the scheme for diversification of the insulin depots, her insulin dosage was reduced to a mixture of 100 units regular insulin and 50 units protamine zinc insulin once daily before breakfast. Three weeks later, her blood sugar levels had dropped appreciably and there had been a considerable clinical improvement, with disappearance of her peripheral pains and a new feeling of well being, to which she was entirely unaccustomed.

CASE 3 (*"Brittle" Diabetes with Hypertrophic [Early Inflammatory Phase] and Late Atrophic Insulogenic Lipodystrophies*).—A girl 9 years of age was admitted to the Jackson Memorial Hospital with severe diabetic acidosis. She had been a known diabetic subject for over one and a half years, receiving 55 units of protamine zinc insulin daily. She had occasional hypoglycemic reactions, but tests of her urine showed heavy glycosuria. Though she responded well and recovered from coma within a few hours, her postcoma adjustment period was characterized by considerable "brittleness," with rapidly alternating phases of hyperglycemia and hypoglycemia.

The subcutaneous fat tissues at the anteroexternal aspect of both arms were almost absent. The skin was firmly adherent to the underlying structures, giving an impression of fibrosis. It was almost leathery, as if the subcutaneous fat had been replaced by a thin scarry layer of fibrous tissue. There had been a period of inflammation, swelling and pain several months before, which had been gradually replaced by the present degree of atrophy. When the arms were no longer usable, she moved the site of her injections to the midanterior aspect of her thighs, alternating from the right to the left but always using the same oval areas of about 10 by 5 cm. Both these areas were swollen with irregular hard nodes, they felt hot, and the skin was discolored with purple and reddish patches.

By diverting the subsequent injections of insulin to sites in unaffected areas, these two swollen and inflammed lesions subsided within the following two or three weeks. During this period, while attempts were being made at regulation by using various mixtures and various schedules for injection, her blood sugar levels oscillated widely between 0.029 and 0.315 per cent.

I believe that the exaggerated "brittleness" of this patient and the wide oscillations in her glycemia levels were due largely to difficulties of local absorption of her insulin depots and to the ulterior absorption of long-standing depots which had remained for some time unabsorbed within the areas of fibrosis subsequent to inflammation. Although this girl had been receiving an injection of insulin every day, it is probable that sometimes the injected insulin remained in situ without becoming absorbed for variable periods of time. When the breakdown process of the inflammed tissues "spilled" the insulin retained in those depots into adjoining areas, where blood circulation was better conditioned, it could be absorbed and severe hypoglycemic reactions would result.

Eventually all the inflamed areas of the thighs became reabsorbed, and this girl became fairly well adjusted after a good diversification of the sites of injection was obtained through the scheme which will be explained later.

CASE 4 (*Hypertrophic Lipodystrophy and "Brittle" Diabetes*).—A married Jewish man aged 32, known to be diabetic since the age of 22, had polyuria, polydypsia, polyphagia, decided tiredness and weakness, depressed libido and melancholia. Blood sugar levels were unpredictably variable, with glycosuria also appearing irregularly, and he complained especially that he frequently had attacks of hypoglycemia with severe reactions on the same days that urinalyses within a few hours of each other showed intense glycosuria. He had been losing weight for several months. He always injected his insulin in the same two oval areas of the anterior aspect of the thighs, about 10 by 15 cm each. These areas showed numerous round nodes of various degrees of hardness without inflammation, pain, tenderness or discoloration.

After he was instructed in the diversification of the insulin depots and the avoidance of those affected areas, in one week he gained 3 pounds (1.3 Kg), his urine had been normal with few exceptions for five days, and he felt "like an entirely new person." His well-being, strength and weight kept improving while all previous complaints faded away. Five weeks of treatment resulted in a gain of 9 pounds (4.1 Kg) while the insulin dosage was reduced to a mixture of 36 units regular insulin and 18 units protamine zinc insulin (fig. 3).

COMMENT

Most of these patients have spider angiomas and telangiomas, decreased vibratory sense perception, paresthesias, hypoalbuminemia, hypercholesteremia and various other indications of defective hepatic function. Diabetic neuropathy is also a frequent complication.

Not all diabetic subjects seem to be susceptible to localized insulin lipodystrophies. But only those who repeat their injections frequently in the same areas seem capable of showing this peculiar reaction. My impression is that Marble and Smith's "repeated trauma" is an important etiologic factor, together with some personal factor, perhaps related to the chemistry of allergic phenomena through some metabolic disorder of the liver, which may some day be proved to have an important part in the pathogenesis of insulin lipodystrophies.

At any rate, it is obvious that the neglect of a single detail in the instruction of these patients has made a great difference in their lives. Had they been well instructed initially to continuously diversify the location of the insulin injection, they might have been able to avoid "repeated trauma" and subsequent local lipodystrophies.

The difficulty caused by these lesions in the absorption of the insulin depots may become a serious handicap in diabetic management by increasing the amount of insulin required for adjustment and also by favoring the incidence of severe hypoglycemic reactions. It may be a major cause of so-called "insulin resistance" or of diabetic "brittleness" in at least some patients with severe lipodystrophies. Insulin resistance appears to be most frequent in atrophic lipodystrophies, from continuously impaired absorption, while "brittleness" is more frequent in the hypertrophic-nodular type, in which absorption is irregular and in which the delayed absorption from one or more depots may at times be added to the current dose, with severe alternations of hyperglycemia and hypoglycemia.

TREATMENT AND PREVENTION

The only treatment possible for these insulogenic lipodystrophies is to leave them alone[1a] If the areas are spared long enough, the hypertrophic nodes tend to disappear and the atrophic areas may fill up again after several months In the Out Patient Diabetic Clinic of the Department of Endocrinology at Jackson Memorial Hospital in Miami, all members of the house staff are usually taught to instruct patients according to the "6 by 8" scheme for distribution of insulin depots, as illustrated in figures 1 and 2

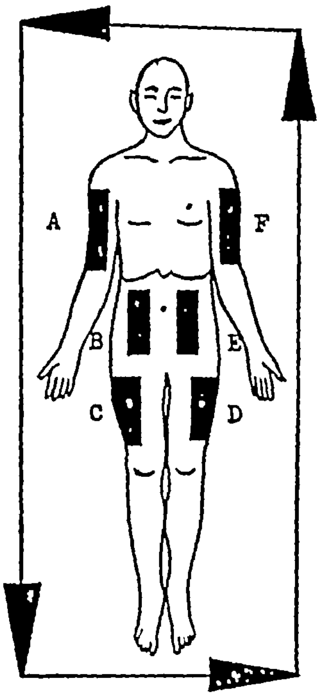


Figure 1

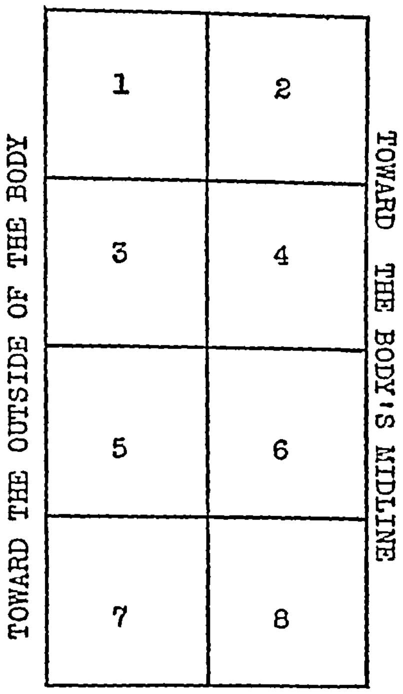


Figure 2

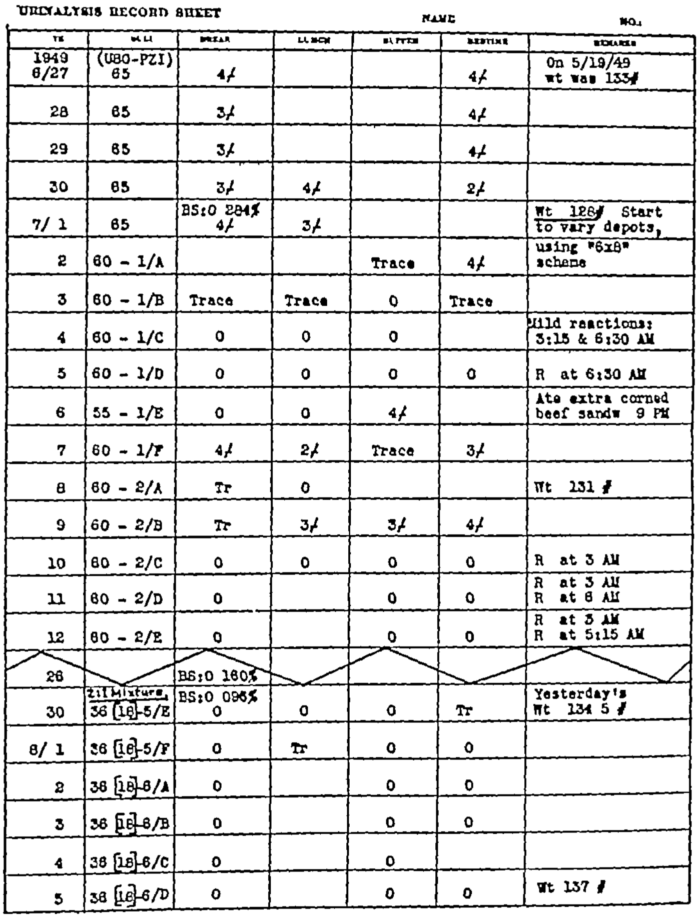
Fig 1 —The anteroexternal aspects of arms and thighs and both flanks are marked *A* through *F* counterclockwise following the direction of the arrows Each of the six areas is a vertical rectangle about 3 by 6 inches (7 6 by 15 2 cm), which may be subdivided into eight zones, as shown in figure 2

Fig 2 —Each injectable area is divided into eight zones, each approximately 1½ by 2 inches (3 8 by 5 cm) These are numbered 1 through 8, from the upper outer through the inner lower corner of the rectangle, with odd numbers toward the outside and the even numbers proximal to the body's midline By injecting the insulin into zone 1 of each consecutive area from *A* through *F*, then into zone 2 of each of the six areas, and so on an interval of seven weeks (forty nine days) will elapse between two injections within any of these zones With the injection trauma so widely spaced local irritation and lipodystrophies are avoided.

Figure 1 shows how the anteroexternal aspects of both arms, thighs and abdominal flanks are marked counterclockwise *A* to *F*, starting on the right arm and ending at the left arm Figure 2 shows how each of these six areas may be subdivided into eight zones, approximately 1½ by 2 inches (3 8 by 5 cm) each for a total of forty-eight different injectable zones By using zone 1 consecutively and counterclockwise in areas *A* through *F* and then zone 2 through the same cycle the patient saves his subcutaneous tissues from repeated irritation, for it takes seven weeks (forty-nine days) to return to the same zone for a second injection within a square 1 to 2 inches in size

This "6 by 8" scheme, or variations of it, have been in use in my clinics and private practice for the past twenty years, and I attribute the lack of insulogenic lipodystrophy among my older patients to the stress placed on the part of the patient's instruction

Because I consider the psychologic impact of the first hour of instruction of tremendous importance in the life of a person who has just been told that he or she has diabetes mellitus, I have always taken it on myself to personally give this first period of instruction whenever practicable If a patient requires insulin, I always make it a point to have the patient himself take the first one or two injections under my guidance In order to promote ambidextrous handling of the syringe, the patient injects the first depot in zone 1 at the right upper arm (area *A*), handling the syringe with his left hand—with a little help from mine By stretching the skin of the area to be injected, with the ulnar edge of the hand, while the syringe is held, pen or pencil fashion, and thrust by one quick motion of the wrist, the injection is not difficult and is painless I like to use a ½ inch (1 27 cm) needle, gage 27, with Huber point, and a syringe of the type approved by the American Diabetes Association for insulin of 80 units per cubic centimeter, the syringe is engraved with green markings, the same color as the cap and lettering on the label of 80 unit insulin container[2]



URINALYSIS RECORD SHEET NAME NO.

[illegible]	[illegible]	BREAK	LUNCH	SUPPER	BEDTIME	REMARKS
1949 6/27	(U80-PZI) 65	4/			4/	On 5/19/49 wt was 133#
28	65	3/			4/	
29	65	3/			4/	
30	65	3/	4/		2/	
7/ 1	65	BS:0 284% 4/	3/			Wt 128# Start to vary depots,
2	60 - 1/A			Trace	4/	using "6x8" scheme
3	60 - 1/B	Trace	Trace	0	Trace	
4	60 - 1/C	0	0	0		Mild reactions: 3:15 & 6:30 AM
5	60 - 1/D	0	0	0	0	R at 6:30 AM
6	55 - 1/E	0	0	4/		Ate extra corned beef sandw 9 PM
7	60 - 1/F	4/	2/	Trace	3/	
8	60 - 2/A	Tr	0			Wt 131 #
9	60 - 2/B	Tr	3/	3/	4/	
10	60 - 2/C	0	0	0	0	R at 3 AM
11	60 - 2/D	0		0	0	R at 3 AM R at 8 AM
12	60 - 2/E	0		0	0	R at 3 AM R at 5:15 AM
26		BS:0 160%				
30	2:1 Mixture, 36 [18]-5/E	BS:0 096% 0	0	0	Tr	Yesterday's Wt 134 5 #
8/ 1	36 [18]-5/F	0	Tr	0	0	
2	36 [18]-6/A	0		0	0	
3	36 [18]-6/B	0		0	0	
4	36 [18]-6/C	0		0		
5	36 [18]-6/D	0		0	0	Wt 137 #

Fig 3 —During the period of adjustment patients keep records on these forms This record from case 4, illustrates the effect of diversifying the sites of injection During the control period from May 19 through July 1, the patient continued to lose weight and excrete sugar heavily, despite careful and adequate diet and increase in dosage from 60 to 65 units of protamine zinc insulin Two days after he started the "6 by 8" scheme for diversification of insulin depots, his urine specimens were sugar free and there was decided clinical improvement, however, insulin reactions appeared regularly on a lower dose of protamine zinc insulin By July 11 it was obvious that the dose should have been reduced further, but the patient did not report until July 29 His weight was up 6½ pounds (3 Kg), and his postprandial blood sugar level was low He was placed on a 2 1 mixture, two parts regular insulin to one part protamine zinc insulin and the total number of units was reduced 10 per cent He continued sugar free, without reactions and in excellent clinical condition All blood sugar levels are determined ninety minutes after breakfast all urine tests are made before meals.

[1a] After this paper was submitted for publication, Collens and associates claimed success in the treatment of seven patients with insulin lipoatrophy by the repeated injection into the depressed areas of the daily insulin doses (Collens, W S , Boas, L C , Zilinsky, J D , and Greenwald, J J Lipoatrophy Following the Injection of Insulin New England J Med **211** 610 [Oct 20] 1949) Every one of the patients in my own experience had been injecting their daily insulin doses into their areas of lipodystrophy of either the atrophic or the hypertrophic nodular types The lesions in these subjects appeared and became gradually worse under that routine and did not improve until the affected areas were put to rest by transfer of the injection depots

[2] I never use insulin of any lower concentration. (I regret that insulins are not uniformly marketed at concentrations of 50 and 100 units per cubic centimeter, which would make unnecessary the use of special "insulin syringes" Any tuberculin type syringe with graduation at each 0 01 of a cubic centimeter then would be adequate for most patients)

After the first one or two injections have been administered by the patient himself in the office, he is told to continue using zone 1 on each of the following areas from *B* through *F* on the first cycle until it is completed counterclockwise Then a new cycle is started, using zone 2 and going from area *A* to area *F*, and so on

Until the patient has been satisfactorily adjusted, he tests his urine with clinitest® three or four times daily, either before or after meals, depending on his renal threshold Records are kept on a simple form (fig 3), on which a column for insulin shows the amounts taken and also helps to keep track of the injection sites demonstrated in figure 2

SUMMARY

1 Insulin lipodystrophies are a frequent complication of insulin injections No definite etiologic factor is known, but it seems probable that they are due to repeated trauma at the site of the injections of insulin in suceptible persons, plus a personal factor, probably related to the chemistry of allergy and to metabolic disorders of hepatic function

2 Four cases of insulin lipodystrophy are reported, in two of which the patients had only atrophic lesions and in the other two, lesions in hypertrophic and/or inflammatory stages, one of these with atrophic areas elsewhere In both types of cases insulin requirements seemed to have increased after the development of the local lesions, and local changes seemed to have interfered with absorption of the insulin

3 "Insulin resistance" may be due in some instances to insulogenic lipodystrophies of the atrophic type interfering with the continuous absorption of insulin from each depot injected

4 Hyperglycemia and glycosuria may also occur when some insulin remains unabsorbed for a certain period of time in the hypertrophic nodular type of insulogenic lipodystrophies, while various degrees of irregularly appearing hypoglycemic reactions may be induced when the eventual irregular absorption of such delayed depots adds the effect of a previously administered dose to that of the currently administered dose This would seem to be the mechanism of production of some cases of so-called "brittle" diabetes

5 Systematic diversification of the site of insulin injections as a routine part of the patient's initial training has been successful in (*a*) preventing the occurrence of insulin lipodystrophies, (*b*) correcting instances of "insulin resistance" and of "brittle" diabetes in cases in which insulin lipodystrophies were present and (*c*) allowing for eventual repair of the affected areas of lipodystrophy

6 The "6 by 8" scheme described in this paper has proved to be an easy method for instructing diabetic patients and impressing them with the importance of continuous systematic selection of insulin injection sites in order to prevent the occurrence of insulogenic lipodystrophies

1010 Huntington Building

Membership in Medical Societies—For the advancement of his profession, a physician should affiliate with medical societies and contribute of his time, energy and means so that these societies may represent the ideals of the profession—Section 2, Chapter III, of the Principles of Medical Ethics of the American Medical Association

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INFLUENCE OF LOWER EXTREMITY AMPUTATION ON STANCE MECHANICS

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IDA MAY SUMMERS M S
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In 1947 the Committee on Artificial Limbs of the National Research Council[1] estimated the incidence of major extremity amputations at 40,000 annually Thus rehabilitation of the amputee is an important medical problem, and much is being done to improve prosthetic appliances and develop better technics of training the amputee in the functional use of such devices To date little or no attention has been directed at the biomechanical effect of replacing the anatomic part lost with an artificial limb weighing less than the extremity amputated This condition holds in the majority of the prosthetic devices now available on the open market The purpose of this study was to explore this problem as it affects the lower extremity amputee

CLINICAL MATERIAL AND METHODS

The subjects of the investigation were 42 adults, 24 of whom were lower extremity amputees Of these, 3 had sustained bilateral lesions, 8 had lost one extremity below the knee and 13 were unilateral thigh amputees Two of the bilateral amputations were of the above-knee type, and the other involved only the legs Control observations were made on 18 normal healthy adults, male and female, representing a variety of body builds

1 *Determining the Height of the Center of Gravity*—The method used in determining the height of the center of gravity was a modification of that described by Hellebrandt and others[2] in 1938 The equipment consists of a balance board suspended in stable equilibrium A sliding weight permits the subject, when lying in a supine position with the soles of the shoes resting against the footboard, to be balanced rapidly and accurately When one has determined the weight of the subject, the weight necessary to balance the system and the distance of the balancing weight from the fulcrum, the linear relation of the center of gravity is determined by equating moments Maximum error in determining the height of the center of gravity was 0 25 per cent

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Mr Corbett Reedy Mr E. S Snead Miss Powhatan Stone and Dr Josephine J Buchanan the State Division of Vocational Rehabilitation Dr Walter Jerome Lee, McGuire Veterans Administration Hospital and Mr Marvin Pollard limb manufacturer aided this study by the referral of amputees Miss Susanne Hirt technical director of the Physical Therapy School of the Baruch Center of Physical Medicine of the Medical College of Virginia, made students available for study Roentgenograms were made by Dr F R. Mandeville. Mr Melvin C Shaffer gave photographic assistance.

From the Division of Clinical Research Baruch Center of Physical Medicine and Rehabilitation Medical College of Virginia This study was supported in part by a grant in aid of research from the Committee on Scientific Research, American Medical Association. A preliminary report was read at the Annual Conference of the American Physical Therapy Association in Boston June 23 1949 (Mueller E E. and Summers I. M Lower Extremity Amputation Its Effect on the Location of the Center of Gravity of the Body as a Whole on Postural Alignment and on Stance Stability Phys. Therapy Rev **29** 454-459 [Oct.] 1949)

[1] Terminal Research Reports on Artificial Limbs Committee on Artificial Limbs of the National Research Council Washington D C (June 30) 1947

[2] Hellebrandt, F A. Tepper R H Braun G L. and Elliott M. C Location of the Cardinal Anatomical Orientation Planes Passing Through the Center of Weight in Adult Women Am J Physiol. **121** 465-470 (Feb) 1938

2 *Locating the Center of Gravity in the Vertical Orientation Planes*—The subject stands on the uppermost of a series of platforms constructed to affect, concurrently, two scales placed horizontally at right angles to each other The scales are equipped with auxiliary levers to convert changes in spring tension into vertical movements which may be recorded on a kymograph Thus every shift in the location of the center of gravity is simultaneously indicated in terms of its anteroposterior and transverse components The latter were also compounded by a cathode ray oscilloscope to obtain a two dimensional record of the shifting center of gravity To obtain the mean position of the center of gravity during known intervals of standing, secondary coils were suspended from the scale levers in the air gap of slotted-core transformers energized by a constant source of alternating current and connected to the current coil of standard watt-hour meters When the voltage on the potential coils of the meters is kept constant, the rate of rotation of each watt meter element is a function of the subject's partial weight Thus, the watt-hour meters integrate fluctuations in partial weight and yield an average value from which the mean position of the center of gravity may be computed The maximal error in localizing the center of gravity by the methods described was 1 52 per cent in the transverse vertical plane and 2 56 per cent in the anteroposterior plane

Mean Influence of Lower Extremity Amputation on the Height of the Center of Gravity Reported as a Percentage of the Total Height of the Subject

Physical Status *	Without Prosthesis				With Prosthesis			
	Male		Female		Male		Female	
	No	%	No	%	No	%	No	%
Normal	8	56 00	10	55 01				
UBKA	6	59.81	1	58 50	6	57 98	1	56 60
BBKA	1	61.20			1	59 50		
UAKA	11	61.20	2	60 75	9	58 94	2	58 15
BAKA	2	66.85			2	62 35		

* The letters UBKA denote unilateral below knee amputation, BBKA, bilateral below knee amputation, UAKA, unilateral above-knee amputation, and BAKA, bilateral above knee amputation

3 *Recording Postural Alinement*—A rough approximation of the distribution of the parts of the body as a whole about the center of weight was obtained with the use of a schematograph By relating known points on the center of gravity platform to the schematogram, the mean vertical projection of the center of gravity could be introduced into the posture picture as an experimentally determined weight line

PROCEDURE

All observations were made with the subjects wearing shoes The height of the center of gravity was determined in recumbency with and without prosthetic correction The mean location of the center of gravity and stance stability were studied with the subject in the vertical posture during three observational periods sixty seconds of relaxed and comfortable standing with the eyes open, sixty seconds with the eyes closed and five minutes with the eyes again open A rest pause usually was interposed between the first two periods and the last period of observation An interval of five minutes was selected arbitrarily as a stress sufficient to elicit instability related to adverse biomechanical factors

To standardize the foot position an adjustable guide was used The heels were separated by a small block, and the toes were turned out sufficiently to equalize the anteroposterior and transverse diameters of support This placement of the feet had been suggested by Morton[3] as the most stable position for standing An outline of the foot position was traced on paper The location of the head of the first metatarsal and the position of the foot in the shoe were obtained from roentgenograms made in the standing posture The location of the center of gravity was evaluated by comparison with the geometric center of the supporting base

RESULTS AND THEIR SIGNIFICANCE

1 *General Information Affecting Interpretation of the Data*—The average age of the experimental subjects was 38 with a range from 19 to 63 years The amputees averaged 68 38 inches (173 7 cm) in height and 150¾ pounds (68 3 Kg) in weight in comparison with the normal controls, who were taller and lighter, that is, 69 11 inches (175 54 cm) and 135 pounds (61 2 Kg) Twenty-one of the 24 amputees used their prostheses regularly Three had been wearing a prosthetic appliance for six months or less The average time during which a prosthesis had been worn was 7 2 years One subject had worn the same artificial limb for thirteen years The average age of the prosthesis worn at the time of the experimental observations was two years One-half the subjects had received no training in posture or gait Sixteen per cent of the remaining subjects had less than two weeks of training Twelve of the amputees were regularly employed, and 2 were housewives

The heaviest prosthesis worn was approximately 10 per cent of the body weight of a unilateral above-knee amputee The mean weight of the various types of appliances worn by the experimental subjects was as follows bilateral above-knee prostheses, 16 06 pounds (7 3 Kg), bilateral below-knee prostheses 13 75 pounds (6 2 Kg), left above-knee prosthesis, 10 2 pounds (4 6 Kg), right above-knee prosthesis, 10 54 pounds (4 8 Kg), left below-knee prosthesis, 6 83 pounds (3 1 Kg), and right below-knee prosthesis, 7 09 pounds (3 2 Kg)

2 *Height of the Center of Gravity*—The influence of lower extremity amputation on the height of the center of gravity is summarized in the accompanying table

The average height of the center of gravity of men is slightly above that of women The normal values obtained in this series of experiments are in close agreement with those of Hellebrandt and co-workers[2] and other earlier investigators[4] Amputation of a portion of the lower extremity elevates the center of gravity and the magnitude of the shift is determined by the site of the lesion The application of a prosthetic appliance lowers the center of gravity but fails to compensate wholly for the loss in weight In only one subject, a female unilateral below-knee amputee, did the center of gravity fall within the limits of normal variation In all others it remained outside the maximal range The results are graphically summarized in figure 1

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[3] Morton, D J The Human Foot Its Evolution Physiology and Functional Disorders New York Columbia University Press, 1935

[4] Croskey M I, Dawson P M, Luessan A C Marohn, I E and Wright H E The Height of the Center of Gravity in Man, Am J Physiol, **61** 171 185 (June) 1922 Cotton F S Studies in the Centre of Gravity Changes A New Method for Finding the Height of the Centre of Gravity in Man with Some Application Australian J Exper Biol & M Sc **8** 53 67 (March) 1931

3 *Postural Stability*—The most difficult problem confronting the amputee is one of balance From a physical point of view, stability in standing is dependent on the height of the center of gravity and the size of the supporting base Postural stability was reduced to a numerical value by measuring the area encompassed by the vertical projection of the points of maximum shift in the center of gravity during a fixed and constant period of standing This was expressed as a percentage of the total area of underpropping The mean area of the base utilized in the maximal shifting of the center of gravity was equal to only 0 66 per cent of the functional base in the normal controls, disregarding the toes, which do not participate in standing, and 0 36 per cent in the amputees

Despite the fact that included in the mean data were those amputees who had had limited use of their prosthesis, the postural instability of these handicapped persons was only 54 per cent as great as that of the vigorous and healthy controls The extreme steadiness of the amputee in standing is a notable achievement, demonstrating the magnitude of the compensatory powers of the machinery of the living body In spite of significant gaps in the configuration of the somesthetic stance pattern, the amputee fitted with a prosthetic appliance has the capacity to maintain effective postural balance to a degree which supersedes normal.

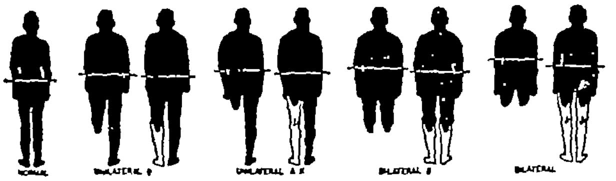

Fig 1—Diagrammatic representation of the influence of lower extremity amputation on the height of the center of gravity and the compensatory effect of the prosthetic appliance.

Postural sway increased in all subjects when the eyes were closed This may be taken as presumptive evidence of the importance of retinal stimulation to the reflex contraction of the antigravity extensors The average percentage increase in the above-knee amputee group was greater than that of the normal persons, and the difference was significant at the 1 per cent level of confidence Not only was there an increase in the range of sway but there was also an increase in the frequency of the oscillations There was a tendency for all unilateral amputees to rely more on the normal leg when the eyes were closed As a whole, the unilateral below-knee amputee showed no significant increase in sway on closure of the eyes There was no evidence of a significantly increased instability in the bilateral below-knee amputee, and the increase in sway for the bilateral above-knee amputee was slight when considered in relation to the severity of his handicap However, this patient did report that he had difficulty walking in the dark

In general, there was little or no increase in postural sway with extension of the period of standing to five minutes However, 2 subjects with unilateral thigh amputation demonstrated an increasing shift in the position of the center of gravity toward the normal leg as the duration of standing was prolonged Furthermore, the two bilateral above-knee amputees also shifted gradually toward the leg which was slightly longer The bilateral below-knee amputation shifted away from the prosthetic appliance which caused some discomfort

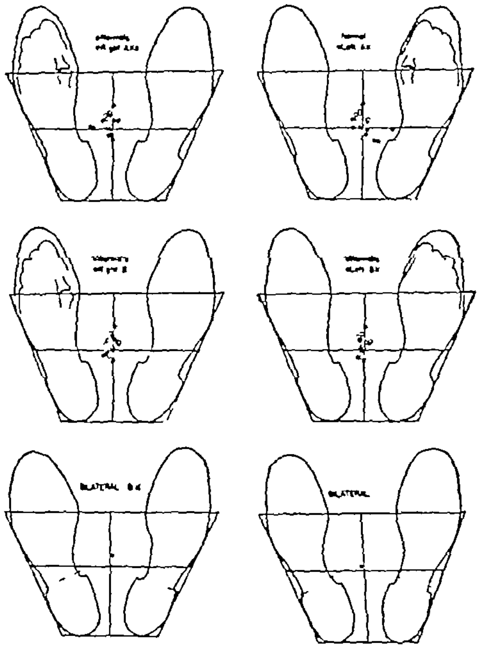

Fig 2—Comparison of the vertical projection of the center of gravity of the amputee with the normal subject (BK denotes below knee amputation and AK above-knee amputation)

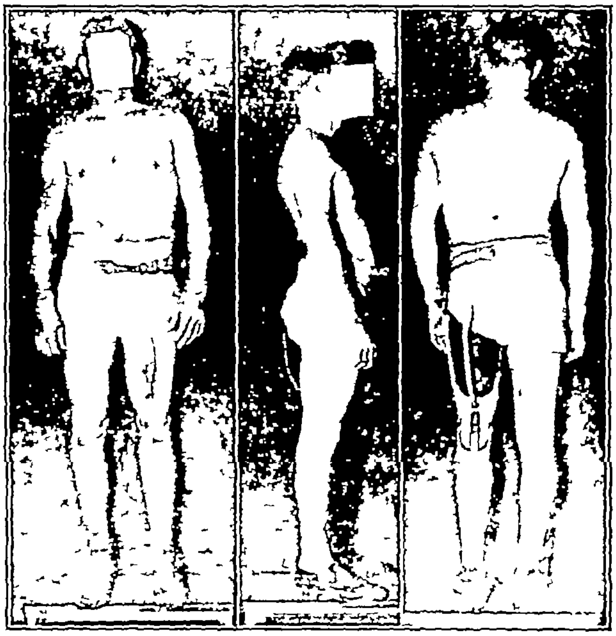

Fig 3—Photographs illustrating compensatory changes in alinement in a unilateral above knee amputee.

4 *Vertical Projection of the Center of Gravity into the Supporting Base*—The observations on the vertical projection of the center of gravity into the supporting base are summarized in figure 2 Although the majority of the unilateral amputees shifted the weight slightly toward the intact extremity, all but 4 compensated sufficiently to bring the vertical projection of the center of gravity within the middle fifth of the transverse diameter of the supporting base This is the area which includes all the normal subjects The vertical projection of the center of gravity of 2 of the subjects with aberrant compensation fell within the middle third of the supporting base One of the remaining amputees walked only with crutches, and the other amputee had a new prosthesis to which he had not yet become accustomed

The anteroposterior eccentricity of the vertical projection of the center of gravity of the below-knee amputees varied little from normal The center of gravity of the above-knee amputees was displaced posteriorly To increase the stability of the knee joint, the foot of the above-knee prosthetic appliance is maintained in slight plantar flexion [5] This position of the foot may account for the tendency toward unusual backward displacement of the center of gravity in thigh amputees The average location of the center of gravity of the amputee properly fitted with a correctly alined prosthesis approximates normal to a remarkable degree Those amputees who were dissatisfied with their prosthesis because of insecurity or discomfort were the subjects who stood with the center of gravity displaced significantly toward the normal extremity

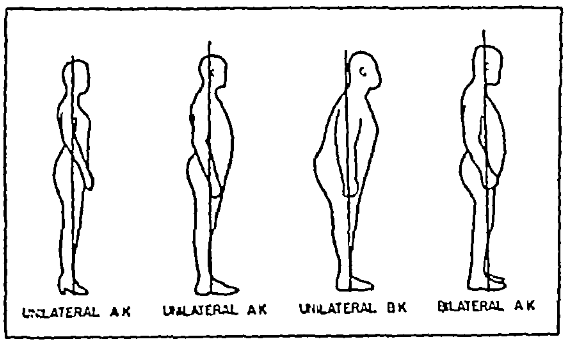

Fig 4—Side view schematograms showing sagittal plane variations in alinement and the location of the experimentally determined weight line (BK denotes below knee amputation and AK above-knee amputation)

5 *Postural Alinement*—Some of the compensatory variations in posture autonomously made by the amputee in order to maintain the center of weight over the middle of the supporting base are illustrated in figure 3 The lateral shift of the trunk toward the side of the amputation causes a curvature of the spine, for it is here that the major compensatory changes take place The weight deficit in a subject wearing a prosthetic appliance lighter than the limb that was amputated must be compensated for in some way This is usually achieved by adjustments of the vertebral column

An amputee experiences his greatest insecurity at the knee joint This insecurity reaches its peak in the bilateral above-knee amputee To prevent knee flexion, the weight of the superimposed parts must be adjusted in a manner which permits the gravity line to fall well anterior to the axis of rotation of the knee joint The anteroposterior schematograms, reproduced in figure 4, show some of the postural adjustments made to keep the knees from buckling

Obvious compensatory adjustments tend also to occur in the dorsolumbar region of the spine The normal tendency of gravity to tip the pelvis may be augmented by the wearing of a pelvic band The upper part of the trunk is then shifted posteriorly to keep the center of gravity over the ischial seat [6] The adjustments which occur are largely automatic, although balance may demand cortical control when the amputee first attempts standing and locomotion Gaps in the total configuration of the sensory pattern appear to be replaced quickly by a compensatory development of new controls Teuber and associates [7] recently demonstrated an adaptive increase in the acuity of two point discrimination in the region of the stump, as compared with that in symmetrically disposed parts of the contralateral normal thigh

SUMMARY AND CONCLUSION

The effect of lower extremity amputation on the location of the center of gravity, postural alinement and stance stability was studied on 24 unselected subjects The accumulated evidence supports the following conclusions

1 Lower extremity amputation significantly elevates the height of the center of gravity

2 Prosthetic appliances compensate in part, but not in whole, for this displacement

3 The majority of amputees maintain the vertical projection of the center of gravity within the middle fifth of the transverse diameter of support and remarkably close to the geometric center of the base

4 Postural realinement is necessary to relocate the center of gravity over the middle of the supporting base and should be considered a physiologic adaptation essential to efficient use of the prosthetic appliance

5 The principal realinement of the unilateral amputee occurs in the transverse vertical plane, as evidenced by a high incidence of compensatory scoliosis

6 The major anteroposterior adjustment made by both unilateral and bilateral amputees is increased tilting of the pelvis and lumbar lordosis

7 Improper alinement of the prosthetic appliance, inequalities in leg length and discomfort are reflected in malposition of the center of weight

8 Postural stability of the lower extremity amputee not only equals but supersedes that of normal young adult subjects when the eyes remain open

9 Reflex postural adjustments mediated by retinal simulation are significantly more important to the amputee than to normal subjects

10 Improper fitting or inadequate training in the use of lower extremity prosthetic devices augments the disabling effects of the handicap by introducing mechanically disadvantageous compensatory adjustments

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[5] Thomas A Anatomical and Physiological Considerations in Alignment and Fitting of Amputation Prosthesis for the Lower Extremity, J Bone & Joint Surg 12 645 659 (Oct) 1944

[6] Burnnstrom, S Walking Training of the Amputee Biomechanical Considerations Physiotherapy Rev 27 147 155 (May June) 1947

[7] Teuber H, Krieger, H P, and Bender M B Reorganization of Sensory Function in Amputation Stumps Two-Point Discrimination, Federation Proc 8 156 (March) 1949

Special Article

INCOME TAX DISCRIMINATION AGAINST THE PROFESSIONS

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Under Section 165(*a*) and related sections of the 1942 Federal Internal Revenue Code, funds used by companies for the purpose of providing employees with pensions or shares in profit-sharing trusts are deductible from gross receipts as business expenses and thus are not a taxable part of the employer's or company's income, if the particular plan is approved by the Bureau. These funds do not become a taxable part of the recipient's income until they are actually received, either when the recipient retires or when he cashes in on his profit-sharing account—at which time he will presumably be in a lower income bracket. Since the provisions of Section 165(*a*) and related sections are restricted to employees, professional men who can qualify as employees—for example, company lawyers and company physicians—can receive the benefits of these pensions and profit-sharing trusts, while those who conduct their professions as single proprietorships or partnerships may not qualify for these benefits. This income tax discrimination, which is particularly burdensome to professional men who practice as individual proprietors and partners, is the subject of the following discussion.

THE PROBLEM—ITS ORIGIN

Until 1935 the problem of financing the retired years of life had been left largely to private initiative, although a few states had enacted pension laws prior to that date. The Social Security Act of 1935 embodied a new doctrine of individual irresponsibility, or social responsibility, society through government would provide minimum benefits for the aged. The Social Security Act, however, because of its limitations and exclusions, introduced certain glaring inequities.

The old age and survivors insurance sections of this Act provide for employee pensions financed by equal taxes paid by employer and employee on the portions of annual salaries not in excess of $3,000. Employers pay their share out of gross receipts. Their payments, as costs of doing business, are income tax free. Employees, on the other hand, cannot deduct their contributions for income tax purposes, but the pensions, when received, are not subject to federal income taxes. The effect of the Act was to provide proportionally greater benefits for those with incomes below $3,000 than for those with incomes above $3,000. Before the new social theory could become properly integrated with our way of life, an inequity such as this had to be eliminated.

Section 165(*a*) and related sections of the 1942 Federal Internal Revenue Code provide for additional pensions or shares in profit-sharing trusts on the basis of total income, not just that portion under $3,000. Although these additional pensions and profit-sharing plans largely benefit those with incomes of less than $3,000, I firmly believe that Section 165(*a*) and related sections were primarily designed to round out the program first introduced in an incomplete form in the depression-born Social Security Act in that they provide more equitable treatment for those with incomes above $3,000 in an era of steeply progressive income tax rates. Since the code's provisions, however, are restricted to employees including executives of corporations, those who conduct their businesses or professions as single proprietorships or partnerships are excluded. Thus all single proprietors or partners—farmers, shopkeepers, professional men—suffer this income tax discrimination.

The very nature of professional work and training makes this discrimination a particular hardship for professional men. The total lifetime income taxes paid by a professional man on a lifetime income may greatly exceed those paid by a nonprofessional person on the same lifetime income, because the former has a long training period and his high earnings are "bunched" into a relatively small number of peak earning years. Those professional men who can qualify as employees under Section 165(*a*) of the Federal Internal Revenue Code—for example, company physicians or company lawyers—receive more reasonable treatment. Their employers can set aside funds for pensions which, as already noted, are deductible from company income as business expenses and therefore are not a taxable part of employer or company income. Section 165(*a*) and related sections also provide that these funds are not subject to individual income taxes as a part of the recipient's income until he actually receives them, either on retirement or when he cashes in on his profit-sharing account. Thus the real benefit to the salaried professional man is derived from the postponement of the payment of taxes on his income until a time when his income, and therefore his tax rate, is expected to be lower. The realization of this benefit, of course, hinges on the income tax laws at the time the cash is received as well as on the individual's income at that time.

THE CASE FOR PHYSICIANS

Since my work is most closely associated with the medical profession, I shall discuss their particular situation. Important in evaluating income tax policies affecting the physician is a knowledge of the unusual pattern of his economic life. First, consider the cost of becoming a physician. The prospective physician typically spends at least three years in premedical training and four years in a medical college—a total of seven years. Almost all graduating doctors of medicine today spend a year in internship. During this year the physician receives board and room and sometimes a nominal salary. The year of internship, or eighth year of training, is thus one of zero income but no cost. The previous seven years were years of cost and years of zero income. The physician who wishes to specialize, in addition to his year of internship, must serve one or more years—depending, in part, on the field he has chosen—as a resident in an approved hospital. As a resident he will receive board and room and a nominal salary. At about age 28, then, our typical physician may begin to earn an income.

During the seven years before graduation from medical school our physician spent about $3,500 for tuition, books and the like—exclusive of board, room and clothing. During his two years of internship and residency he was presumably self sustaining on his small salary. But the money he might reasonably have earned

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This discussion is based on a paper read at a Symposium on Medicolegal Problems in the fall of 1948. The symposium was jointly sponsored by the Chicago Bar Association, the Chicago Medical Society and the Institute of Medicine of Chicago.

or other professional person would compute his share[6] of the burden of the public debt, he would be more anxious than ever to obtain immediate relief from the income tax discrimination under discussion With a rising public debt there is no assurance that a tax rate for a given income bracket would not be increased at a later date to amortize the debt

There will undoubtedly be much disagreement over the final details of a plan for eliminating the present tax discrimination against professional men Nevertheless, professional persons who must endure the cost of entering their profession late in life after prolonged and expensive training must be encouraged to provide pensions for themselves The need for amending our tax laws must be recognized and met if the goal of reasonable pensions for all is to be attained The Social Security Act of 1935 marked the departure, at the federal level, from the doctrine of individual responsibility for pensions The 1942 Federal Revenue Act was a long step forward in rounding out this new idea The task of rounding out that Act to provide reasonable pensions for the self employed in all income brackets must be completed before the new doctrine of social responsibility can be considered integrated and mature

Clinical Notes, Suggestions and New Instruments

AN OCULAR HYPERTENSION INDICATOR (TONOMETER)

CONRAD BERENS, M D
and
CHARLES P TOLMAN, B S
New York

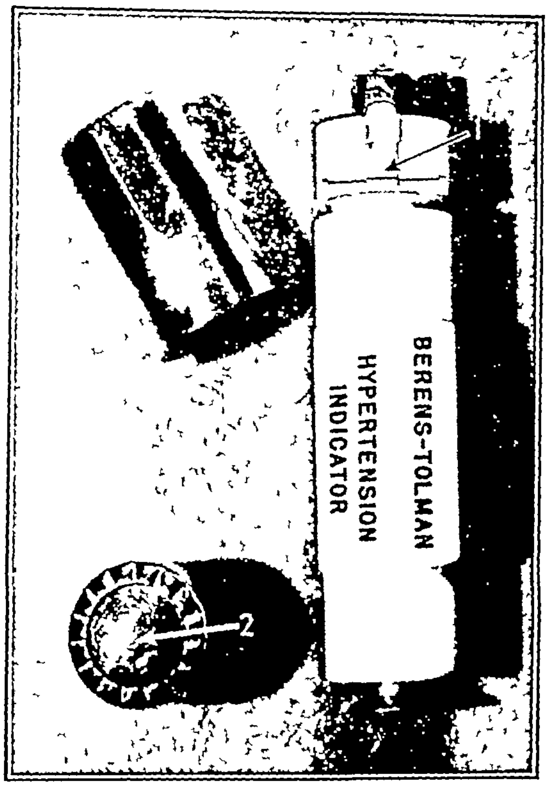
The ocular hypertension indicator (tonometer) is a screening instrument and not a diagnostic instrument We believe that this instrument, placed in the hands of general practitioners according to some acceptable plan, may prevent blindness through the earlier discovery of hypertension and earlier reference of the patient to an ophthalmologist In our opinion the screening instrument need only indicate whether the intraocular pressure is below or above normal This restriction eliminates the delicate parts of the diagnostic tonometer

Description of Instrument—The hypertension indicator uses the footplate and plunger details of the well known Schiotz tonometer The weights of these parts correspond to the Schiotz tonometer At this point the similarity ends In place of the lever, pointer and scale of the Schiotz, a two part, direct reading indicator is used The reference part is screwed on the top of the footplate tube, and the indicator is screwed on the plunger rod A reference line is on the footplate part and an indicator line is on the plunger The instrument is adjusted so that these lines coincide when the indentation corresponds dimensionally to an intraocular pressure of 25 mm of mercury or such other pressure as may be considered most suitable for screening purposes The adjustment is accomplished by screwing the indicator up or down on the plunger rod Once adjusted, it remains constant The reading is magnified optically The instruments illustrate two types of indicator—one for reading laterally at eye level, the other for reading vertically

The working parts are mounted in a plastic holder A free axial movement of approximately ¼ inch (0 64 cm) is provided The central part of the holder is hexagonal to provide a comfortable finger grip Both ends are cylindrical and fitted with metal caps to make a dust-tight protection for the operating parts of the instrument One cap is fitted with a testing block The instrument with caps in place is slightly less than 3 inches (7 62 cm) long and ¾ inch (1 91 cm) in diameter

Certain characteristics of the instrument should be noted In the Schiotz tonometer the foot mechanism and the plunger are mechanically associated through the lever This results in a transfer of weight from one to the other at different scale readings In the hypertension indicator there is no mechanical association Therefore the weights of the footplate and the plunger are constant One type of indicator has the concave-tip plunger of the standard Schiotz The others have the convex tip of the Schiotz-X specification It is thought that the convex tip is preferable for the proposed usage Clinical evaluation of this instrument in comparison with a standard Schiotz tonometer seems to indicate that for the one reading desired the results are sufficiently accurate

Technical Considerations—Reference is made to an article on tonometry, Friedenwald[1] Interpolation in table 2, page 1001, of the reference paper[1] shows that the indentation produced by the 7 5 Gm plunger is 0 525 mm at 30 mm of mercury and 0 685 mm at 25 mm of mercury The difference in indentation is 0 16 mm The width of the lines on the index of the hypertension indicator is 0 10 mm If the index is set for alinement at 25 mm of mercury, the displacement at 30 mm of mercury will be clearly seen, because even a partial displacement can be readily discriminated A displacement equal to the width of the lines corresponds approximately to 3 mm of mercury We believe that this range is sufficiently accurate for screening purposes



Hypertension indicator (Berens Tolman) Note at arrow 1 that the indicator line is seen distinctly above the double reference line This point indicates approximately 30 mm of mercury with the instruments set for alinement at 25 mm of mercury Arrow 2 indicates the footplate cap with test block

COMMENT

It is our hope that several ophthalmologists will be willing to test this instrument for screening purposes and that others will share our belief that such an instrument should be placed in the hands of general physicians We also hope that use of the hypertension indicator may result in the prevention of much unnecessary blindness

708 Park Avenue

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[6] My method for computing an individual family s share of the public debt burden is presented in Bureau Bulletin 65 How Rich Are You? Chicago American Medical Association, September 1948

Consulting Engineer (Mr Tolman)

Development of the ocular hypertension indicator (tonometer) was aided by a grant from the Ophthalmological Foundation, Inc

Read before the Section on Ophthalmology at the Ninety Eighth Annual Session of the American Medical Association, Atlantic City,

[1] Friedenwald J S Contribution to Theory and Practice of Tonometry, Am J Ophth **20** 985 1024 (Oct.) 1937

PLACENTAL TRANSMISSION OF CHLORAMPHENICOL (CHLOROMYCETIN®)

SIDNEY ROSS M D
FREDERIC G BURKE M D
JAMES SITES M D
E. CLARENCE RICE M D
and
JOHN A WASHINGTON M D
Washington D C

It has been shown that both streptomycin and penicillin are able to traverse the placental barrier and appear in the fetal circulation in therapeutic concentration An experiment was carried out to determine whether chloramphenicol (chloromycetin®) similarly passes through the placenta An oral dose of 1 Gm. of the drug was given to 8 patients and 2 Gm was administered to 3 patients in active labor approximately one to five hours before delivery Blood for chloramphenicol assays was obtained from the mother and cord at the time of delivery In 1 instance, (case 11) the mother delivered twins and chloramphenicol assays were obtained on both infants The serums were then tested for chloramphenicol content with a new chemical assay method developed in this laboratory by Bessman and Stevens[1] This method has proved to be more accurate than the bioassay method and considerably simpler to perform.

It will be noted in the accompanying table that in 6 of the 11 patients chloramphenicol passed through the placental barrier in good concentration approximating 30 per cent to 80 per cent of that noted concomitantly in the maternal blood stream In the 5 remaining patients chloramphenicol was not detected in the cord blood However in these patients the maternal blood concentration was 3 8 micrograms per cubic centimeter, or less in all instances but 1 (case 10) Thus it would appear necessary to maintain an adequate maternal blood concentration in order for the placental threshhold to be exceeded and for diffusion of the drug into the fetal circulation to take place. In order to accomplish this and to achieve a therapeutic blood concentration a maternal blood level of at least 10 micrograms per cubic centimeter would appear advisable It is probable that a dose of 50 mg per kilogram of body weight per twenty-four hours in a four hour divided dosage schedule administered to the mother would assure, in the majority of cases, sufficient placental transmission of the drug to control susceptible infections in the infant.

Correlation Between the Amount of Chloramphenicol in Maternal and Cord Blood at the Time of Delivery

Case	Dose (Gm)	Time * (Hr)	Chloramphenicol Levels (µg /Cc) Maternal Blood	Placental Cord Blood
1	1	2	3.8	0
2	1	2½	3 8	0
3	1	5	7.5	3.8
4	1	2½	15 0	11.0
5	1	1½	3.8	0
6	1	1½	12 1	3 9
7	1	2	12.8	0.8
8	1	2	18 4	14 1
9	2	¾	2.3	0
10	2	1½	11 4	0
11	2	1½	30 0	17 21

* Interval of time elapsing between administration of chloramphenicol and delivery of infant

The significance of these observations may assume some importance in the event chloramphenicol is employed in the treatment of susceptible maternal infections These would include bacterial pneumonias, septicemia typhoid, rickettsias shigellosis and genitourinary tract infections Recent evidence[2] indicates that chloramphenicol is an effective drug in the treatment of syphilis and hence would similarly be effective in the treatment of congenital syphilis ante partum if it were employed as a substitute for penicillin in this disease. It is now known that certain virus infections such as maternal rubella during the first trimester of pregnancy are capable of producing fetal anomalies Whether chloramphenicol-susceptible virus infections such as atypical pneumonia share this propensity for producing abnormalities in the fetus is unknown at present However, the empiric use of chloramphenicol in such instances would be desirable in an attempt to avoid fetal damage in view of the efficacy of the drug against this disease

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From the Research Foundation of Children s Hospital
Miss Sara Stevens and Miss Helen Brown gave technical assistance.
The chloramphenicol was supplied by Dr E A Sharp Parke Davis & Company Detroit 23 Michigan
This study was supported by a grant to Children s Hospital from the Antibiotic Study Section of the Division of Research Grants and Fellowships, the National Institutes of Health United States Public Health Service.

[1] Bessman S P and Stevens, S A Colorimetric Method for the Determination of Chloromycetin in Serum or Plasma to be published.

[2] Romansky M Personal communication to the authors

TREATMENT OF EXTERNAL OTITIS, A SIMPLE AND EFFECTIVE TECHNIC

IRVING L. OCHS M.D
Annapolis Md.

In the past ten years the reports on external otitis have shown a growing realization of the role of Bacillus pyocyaneus (Pseudomonas aeruginosa) as a pathogen. Probably the earliest expression of this was by Morley[1] in 1938 Since that time, many others have been of the same opinion Salven and Lewis[2] investigated 100 consecutive cases of external otitis B pyocyaneus was present in 45 per cent of these, whereas in a control group of 25 normal ears none had B pyocyaneus or fungi Beach and Hamilton[3] in a study of 69 cases of external otitis found B pyocyaneus in 65 of them. Their control group of 50 normal ears did not show this organism In a paper on fungous disease of the auditory canal Conley[4] stated that he found B pyocyaneus in two thirds of the cases and concluded that these organisms, rather than fungi, should be considered as the common causative agent in external ear diseases

The use of a tampon with a dilute aluminum acetate (Burow's) solution for acute external otitis is widely known. Gill in his excellent review of the subject in 1938[5] mentioned the use of 2 per cent acetic acid but he placed no particular stress on it In his article of 1942[6] he did not mention it at all In a review of external ear diseases in Jackson s textbook[7] Gill again recommended use of 2 per cent acetic acid in treatment of infection due to B pyocyaneus

It is an established but not well known fact that acetic acid acts almost specifically as a bactericidal agent against B pyocyaneus It is frequently used as a wet dressing to overcome infections in contaminated surgical wounds, burns and granulating osteomyelitic wounds due to this organism A solution containing 1 to 2 per cent acetic acid usually clears the malodorous green discharge in a few hours There is no apparent damage to the tissue by this treatment.

A recent paper by C R Owen[8] vividly demonstrates the bactericidal properties of acetic acid, particularly against B pyocyaneus, Bacillus proteus and other gram-negative bacilli This work was done to demonstrate the usefulness of acetic acid as a specific inhibitor of these organisms in the culturing of mixed infections Owen found that 0 1 cc. of 10 per cent acetic acid added to 15 cc. of beef heart infusion broth yields a solution with a p_H of 5 0 to 5 5, and that this will completely inhibit the growth of gram-negative bacilli although permitting streptococci and staphylococci to grow He also found that 0 5 cc of 10 per cent acetic acid with a p_H of 4 5 would completely inhibit the growth of all organisms He believed that this was a result of the acetic acid and not of the lowered p_H, since experiments "using hydrochloric acid or sulfuric acid in parallel with acetic acid were entirely unsuccessful "

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[1] Morley G Otitis Externa Hot Weather Ear Investigation of One Hundred Cases and Method of Treatment Brit. M. J **1**: 373 (Feb 19) 1938

[2] Salven S B and Lewis M L. External Otitis with Additional Studies on the Genus Pseudomona J Bact. **31** 495 (April) 1946

[3] Beach, E W and Hamilton, L. L Tropical Otitis Externa U S Nav M Bull **44** 599 (March) 1945

[4] Conley J J Evaluation of Fungous Disease of the External Auditory Canal Arch. Otolaryng **47** 721 (June) 1948

[5] Gill W D Otomycosis Some Remarks Concerning Its Prevalence Symptomatology and Treatment Ann. Otol. Rhin & Laryng **47** 189 (March) 1938

[6] Gill W D Otitis Externa, Ann Otol. Rhin. & Laryng **51** 370 (June) 1942

[7] Gill, W D Otomycosis in Jackson C, and Jackson C L Diseases of the Nose Throat, and Ear Philadelphia W B Saunders Company 1945 pp 243 247

[8] Owen C R. Acetic Acid Inhibition of Gram Negative Bacilli in Culture Media J Bact. **52** 353 (Sept.) 1946

Three years ago, I decided to try to improve on the method of using the aluminum acetate tampon as a wet dressing by adding acetic acid to make a solution of about 2 per cent strength In the past three years I have used this solution to treat 248 ears in 165 patients, without a single failure to clear up the acute phase of this condition In every instance the discharge stopped within hours of the institution of treatment, the foul odor of infected, macerated skin was lost and the swelling subsided promptly Many of these were acute external infections with no underlying skin abnormality Most of the ears were draining Some were swollen, red and tender, with no discharge Some exhibited acute flare-ups of old infections, usually superimposed on a seborrheic dermatitis Most patients with acute infections experienced rapid relief from pain, particularly those whose ears were discharging About 20 per cent of the patients with acutely swollen ears without discharge failed to get relief or had increase in pain until after forty-eight hours of continuous application of wet dressings However, since I was confident of the unfailing success of the treatment, these patients were given meperidine hydrochloride (demerol hydrochloride®) codeine or other indicated analgesic agents to cover the discomfort Even in the face of fever and preauricular adenopathy no other treatment was used, except that 3 patients early in the course of this study were given sulfonamide drugs in addition, to control fever and adenopathy

Five patients in this series had a chronic skin disease with superimposed infection that would relapse within a few days of removal of the wick Three of these had seborrheic eczema, 1 acne rosacea and 1 atopic eczema These patients were comfortable and without pruritus or discharge, as long as a wet dressing was used Their infections were refractory to the usual ointments and lotions, and they had to be referred to dermatologists

THERAPEUTIC TECHNIC

The technic of treatment of external otitis is to clean any debris or discharge from the canal of the ear, using hydrogen peroxide to help loosen adherent particles When the ear is thoroughly clean a snug cotton wick is inserted, and this is then saturated with acetic acid solution The patient is then given a prescription for acetic acid and aluminum acetate solution and is told to keep the wick saturated with this, the amount and interval of application depending on the amount of cotton in the wick This in turn depends on the depth and diameter of the ear canal

When the canal is so swollen and tender that it cannot be properly cleaned, it will be found that after twenty-four hours of treatment with the wet dressing there will be considerable diminution in both swelling and tenderness, so that the ear can then be adequately cleaned If any coagulum or other foreign particles are left before the wick is inserted, they will occasionally serve as a source of reinfection Consequently, every effort is made to clean the ear meticulously, using hydrogen peroxide and irrigation, as well as cotton swabs

After forty-eight hours the patient returns and the wick is removed The keratinized layer of the epidermis will be found to be coagulated, and it is readily rubbed away with a thin dry cotton applicator This leaves the underlying epidermis exposed If there is still pain, swelling or adenopathy, another wick is inserted, and the patient follows the same regimen for another two days In chronic eczematized ears it often requires a week or more of treatment with wet dressings before the skin returns to normal

When the acute phase of the infection has subsided, if an underlying seborrhea remains the patient is given a prescription for juniper tar (Cade) oil, sulfur and salicylic acid, 3 per cent solution of each, in fungicidal[9] ointment and instructed in its use.

If the infection has been on previously normal skin, a fungicidal ointment[9] is generously applied and the patient is discharged Apparently, these organic acids, possible because of the chemical similarity to acetic acid, are sufficiently bactericidal to maintain the skin of the canal in a healthy status

In all these cases I used boiled household vinegar as a source of the acetic acid This is about 5 per cent strength In the office, I would wet the cotton tampon with equal quantities of vinegar and dilute aluminum acetate solution Occasionally, I would use the vinegar full strength, particularly on an old eczematized ear, without any harmful effects except for a momentary stinging sensation

REPORT OF CASES

The following cases are representative

Mr J A , a white man aged 40, had continuously discharging ears for five years, with varying degrees of involvement, including oozing, eruption of the pinnae and surrounding areas of the face and neck He had been treated with dyes, sulfonamide drugs, silver nitrate, roentgen rays and physiotherapy, without any significant change in his condition. Within hours of the use of the acetic acid tampon, the discharge stopped completely The swelling of the canal subsided sufficiently to permit adequate cleaning The wet dressing and cleaning regimen was continued until the swelling subsided completely He was then told to apply the ointment, which kept his ear dry, smooth, open and relatively free of itching

Mrs L P , a white woman aged 30, had bilateral external otitis of seven years' duration, with varying severity but with unremitting foul discharge for the entire period The discharge and odor had disappeared at the time of the first dressing, after forty-eight hours' use of the acetic acid wick. The otitis healed completely with the use of the ointment, and she has remained free of disease for two years

Mr J W , a white man aged 65, had bilateral external otitis of four years' duration He had chronic lymphangitis of both pinnae, which were decidedly thickened and red In addition to this condition, he had recurring bouts of acute erysipelas from the focus in his ears With the application of the aluminum acetate wet dressing, the discharge stopped immediately Several weeks of treatment with the wet dressing were required to reduce the swelling of his pinnae so that they returned to a normal status He had remained free of all disease of his ear and face for six months at the time of writing

CONCLUSION

An effective, available and inexpensive technic is proposed for the control of external otitis

51 Southgate Avenue

Council on Foods and Nutrition

ACCEPTED FOODS

The following product has been accepted as conforming to the Rules of the Council

JAMES R WILSON, M D, *Secretary*

The Carber Products Company, Fremont Mich

GERBER'S STRAINED PLUMS WITH TAPIOCA consists of plums with approximately 12% sugar tapioca flour not in excess of 5% and sufficient water for preparation

Analysis (submitted by manufacturer) —Total solids 25 52% moisture 74 48%, ash 0 28% fat (ether extract) 0 12%, protein (N × 6 25) 0 38%, crude fiber 0 18% and carbohydrates other than crude fiber (by difference) 24 56%

Vitamins and Minerals	Per Hundred Grams
Vitamin A	590 U S P units
Thiamine	0 0434 mg
Riboflavin	0 0218 mg
Ascorbic acid	0 816 mg
Calcium	7 7 mg
Phosphorus	8 4 mg
Iron	1 04 mg

Calories—1 01 per gram, 28 63 per ounce.

Use—For use in the feeding of infants, convalescents and others requiring a soft diet

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[9] The proprietary fungicidal ointment contains sodium propionate 12 3 per cent propionic acid 2 7 per cent, sodium caprylate 10 per cent, zinc caprylate 5 per cent, dioctyl sulfosuccinate 0 1 per cent with inert ingredients 69 9 per cent and propyl alcohol 10 per cent.

Council on Physical Medicine and Rehabilitation

The Council on Physical Medicine and Rehabilitation has authorized publication of the following article

Howard A. Carter, *Secretary*

TRIBUTE TO THE MEMORY OF DR JOHN STANLEY COULTER

The Council on Physical Medicine and Rehabilitation of the American Medical Association records with deep sorrow the death of John Stanley Coulter Chairman Emeritus of the Council on Physical Medicine and Rehabilitation, on Dec 16, 1949

Dr Coulter died of cerebral hemorrhage at his home in Westville, Ind., he was 64 years of age. The great pioneer in the early days of physical medicine and rehabilitation, Dr Coulter provided inspiring leadership wise counsel and diplomatic guidance during his long term as Chairman of the Council on Physical Medicine and Rehabilitation.

Dr Coulter was born in Philadelphia, Sept. 27, 1885 He was graduated from the University of Pennsylvania School of Medicine, Philadelphia, in 1909 and from the Army Medical School, Washington, D C., in 1911 He served in the regular Army Medical Corps until 1920, when he entered practice in Chicago and began pioneering in his special field, which was known successively as physical therapy, physical medicine and, finally, physical medicine and rehabilitation. During World War I Dr Coulter was a lieutenant colonel in the Medical Corps of the United States Army, and in World War II he was regional medical officer of civilian defense for Illinois, Michigan and Wisconsin

In 1926 he joined the faculty of Northwestern University Medical School as assistant professor of physical therapy, becoming associate professor in 1932 and chairman of the department and professor of physical medicine in 1943

Dr Coulter was a member of the Council on Physical Medicine and Rehabilitation of the American Medical Association in 1930, he was elected Chairman in 1942 and Chairman Emeritus on Dec. 2, 1949 During World War II he was chairman of the Subcommittee on Physical Therapy of the National Research Council and in 1941 he became scientific advisor to the Baruch Committee on Physical Medicine and Rehabilitation. He was in charge of the departments of physical medicine at Illinois Central Michael Reese St. Luke s, Alexian Brothers, Passavant and Wesley Memorial hospitals in Chicago and was consultant in physical medicine to the Veterans Administration Hospital Hines, Ill

Among Dr Coulter s many outstanding activities were his services as member of the Board and secretary of the American Registry of Physical Therapy Technicians charter member of the American Board of Physical Medicine and Rehabilitation, member of the American Rheumatism Association and Institute of Medicine of Chicago past president of the American Society of Physical Medicine past secretary-treasurer of the Society of Physical Therapy Physicians, fellow of the American College of Surgeons and treasurer and president of the American Congress of Physical Medicine. The last named organization in 1943 awarded him its gold key of merit Dr Coulter also served on the advisory committee of the Parmly Foundation for Auditory Research He was the author of chapters in the "Handbook of Physical Medicine, associate editor of "Principles and Practice of Physical Therapy and a member of the editorial board of *Archives of Physical Medicine* He contributed to Reimann s Treatment in General Medicine (1939), Barr s Modern Medical Therapy in General Practice (1940) and Glasser s 'Medical Physics" (1943)

John Stanley Coulter was the genial, energetic and inspiring leader of physical medicine and rehabilitation during its difficult formative years For three decades he marched at the front of the pioneers who finally achieved the complete recognition of a special field of medical endeavor which had been maligned, reviled and considered akin to quackery He, more than anyone else bore the brunt of the attack. It must have been a source of tremendous gratification to John Stanley Coulter in his later years to see the establishment of the American Board of Physical Medicine and Rehabilitation and the establishment of a permanent Section on Physical Medicine and Rehabilitation in the American Medical Association and to realize that his long battle had been won, such an opportunity comes to few great men The members of the Council on Physical Medicine and Rehabilitation will always be grateful to this unaffected, kindly, genial and extremely approachable friend for his guidance and leadership during some of its most difficult years

REPORT OF THE COUNCIL

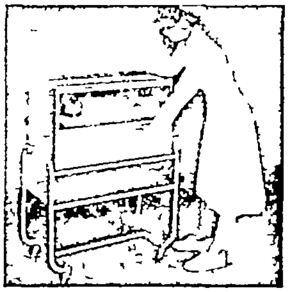
The Council on Physical Medicine and Rehabilitation has authorized publication of the following reports

Howard A Carter *Secretary*

ALOE PRECISION INFANT INCUBATOR ACCEPTED

Manufacturer A. S Aloe Company, Olive at Nineteenth St. Louis 3

The Aloe Precision Infant Incubator is used to house infants requiring especially controlled conditions of temperature and humidity It consists of two separate parts The incubator and a stand provided with casters The incubator can be kept either on the rolling stand or on a stationary table.



Aloe Precision Infant Incubator

The dimensions of the incubator proper are 46 by 41 by 76 cm (18 by 16 by 30 inches) and its weight is 34 Kg (75 pounds) The dimensions of the stand are 74 by 46 by 84 cm (29 by 18 by 33 inches) and it weighs 6 8 Kg (15 pounds) The combined shipping weight is 45 Kg (120 pounds) For operation of the heating and humidifying elements a source of alternating current at 60 cycles and 115 volts is required The power consumption is 208 watts

The device was found satisfactory in construction and operation The Council on Physical Medicine and Rehabilitation voted to include the Aloe Precision Infant Incubator in its list of accepted devices

MICRONIC HEARING AID, MODEL 303, ACCEPTED

Manufacturer Micronic Corporation, 727 Atlantic Avenue Boston 11

The Micronic Model 303 is an electric hearing aid which, disregarding the clothing clips and control wheels measures 89 by 57 mm in length and width, in thickness it tapers from 21 mm at the top to 18 mm at the bottom The weight of the batteries is 47 5 Gm that of the receiver and cord, 11 5 Gm and that of the case, without the foregoing 90 Gm The total weight is 149 Gm Zinc-carbon batteries are required, the A-battery supplies 1 5 volts and the B-battery 22 5 volts

A novel feature is the absence of any opening for the microphone in the front of the case Sound reaches the concealed microphone through two slots in the top of the instrument Separate sockets are provided for magnetic and for crystal receivers

Laboratory and clinical evidence from sources acceptable to the Council indicated that the performance of this instrument, equipped with a magnetic receiver, was highly satisfactory The Council on Physical Medicine and Rehabilitation voted to include the Micronic Hearing Aid Model 303, with magnetic receiver, in its list of accepted devices

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SATURDAY, APRIL 29, 1950

IRRADIATION HAZARDS

In recent years much confusion has arisen concerning the effects of ionizing radiations. There is, on the one hand, the irresponsible optimism with which occasional unqualified persons handle x-ray apparatus and radioactive substances; there is, on the other hand, the unreasoning dread that can be engendered by accounts of pain, mutilation and slow death following overexposure.

Attention has been focused on the subject because of developments during the war. At the same time, new research tools and treatments were being born with the preparation of radioactive iodine, iron, phosphorus and other substances. And yet, the fact that a considerable mass of knowledge has existed for many years often was overlooked. The use of radiation and its possible harmful effects are not new subjects to the many who are acquainted with this field of activity. Ingram recently presented a discussion of the health hazards in radiation work.[1] The term radiation hazard is limited to the dangers associated with ionizing radiations, although other radiations can be hazardous; for example, the radiant energy from heat and light. The effects of burns from excessive heat and overexposure to sunshine are well known. Sometimes there is failure to recognize that such hazards also stem from radiant energy.

The undesirable effects of ionizing radiation were discovered within a year following Roentgen's discovery. A recent book by Grubbe[2] reports the tragic experiences of a pioneer in this field. Another discussion of similar interest in this connection is by Brown,[3] which reports the deaths of 28 American physicians during the early days of roentgenology. Apparently the number of pre-Hiroshima victims of ionizing radiations has never been estimated. The estimate would have to include the victims of radium and its congeners, victims outside the United States, victims among physicists, dentists, nurses, technicians and patients and victims of tumors and blood dyscrasias, whose connection with ionizing radiation long remained unsuspected.

Ingram points out that all types of ionizing radiations produce cell destruction and that, from a biologic viewpoint, roentgen rays, gamma rays, alpha and beta particles and neutrons differ essentially only in the distribution and the magnitude of the destruction produced. Roentgen rays are widely employed, especially in hospitals and industries, and bring danger to persons who fail to adhere to protective measures. Lead-containing gloves and aprons must not be thought of as giving absolute protection. Absorption of gamma and roentgen rays by shielding materials is, theoretically, never complete. If a given thickness of a given material reduces the intensity of incident radiation to one half, then two thicknesses reduce it to one fourth and three thicknesses to one eighth, never to zero. Hence gloves and aprons cannot protect from exposures too intense, too prolonged or too often repeated. Appreciation of the penetrating ability of the beams from modern sources can be gained by viewing the 90 ton concrete blocks piled up about a synchrocyclotron.

Gamma rays as produced by radium, high voltage x-ray machines, accelerators and chain-reacting piles are similar to roentgen rays, except that they have shorter wavelengths and are more penetrating. Other ionizing radiations vary in this respect. Alpha particles penetrate poorly and are absorbed at the surface of the human skin; hence they are effective, for good or ill, only at close range and can be devastating to superficial structures. This is one practical reason why physicists distinguish between "alpha-emitters" and other radioactive substances. Beta particles are more penetrating, but also more complicated in their effect. Neutrons are outstanding for their great penetrating power and provide a hazard for those working with cyclotrons and chain-reacting piles. Ingram warns that the latter hazards probably will increase as research on nuclear physics increases. One hazard of gross overexposure is the development of cataracts.

Thus, radiologists, researchers and those who handle for other reasons radioactive substances are exposed to hazards for which precautions must be instituted and carefully observed. Ingram's recounting of the development of recognition of the hazards provides a thoughtful reminder of the experience that sometimes seems to be necessary before the true status of health problems is revealed Health protection programs when instituted and rigidly followed have been successful Such protection is necessary to minimize the harmful effects of radiation on the skin, bones, blood and generative and other tissues Of warning significance is the assertion that there is not now available, nor is there likely to be, a single specific remedy for radiation injury

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[1] Ingram, M.: Health Hazards in Radiation Work, Science **111**: 103 (Feb. 3) 1950.

[2] Grubbe, E. H.: X-Ray Treatment: Its Origin, Birth and Early History, Milwaukee, The Bruce Publishing Company, 1949.

[3] Brown, P.: American Martyrs to Science Through the Roentgen Rays, Springfield, Ill., Charles C Thomas, Publisher, 1936.

Radiation and radiation hazards are words with which the medical profession will become more familiar Ingram writes "Radiation has gained a permanent foothold in modern science and industry, and society is presently struggling to learn to live with it The attitude of alarm which has been so commonly associated with the idea of radiation work can safely be discarded, provided it is replaced by one of healthy respect for protective rules" Members of the medical profession have much responsibility in establishing the foothold for radiation and in developing the requested healthy respect for protective measures

LEPROSY IN THE UNITED STATES

Leprosy (Hansen's disease) never has been an important problem in Continental United States for the practicing physician or for public health authorities The total number of cases that have been reported never has exceeded about 500 at any one time There are six leprosariums maintained by the United States and the territories with about 950 patients About 390 patients are in the United States Marine Hospital, Carville, La The physician generally has left the care of patients to a few specialists in municipal, state or federal institutions Public health authorities generally have removed patients from their jurisdiction to the United States Marine Hospital. The health officer often has been forced to this decision against his better judgment because of the exaggerated fear, at times amounting almost to hysteria, of the local population For both practitioner and health officer, these attitudes fortunately are in process of change

During the last decade a much more hopeful outlook in respect to medical treatment has been effected Chaulmoogra oil and its derivatives, which were the drugs that were chiefly used for years, have been discarded, their uselessness having been demonstrated to the satisfaction of most students of the disease Much credit tor the prospect for improved therapy is due to the work of the United States Public Health Service officers at the federal hospital at Carville Led and inspired by the late Dr Guy H Faget, this group used glucosulfone sodium (promin®), which had been tried by others without much success in human tuberculosis After months of discouraging trial, definite improvement was observed in many cases, a result never before shown by any other therapeutic agent, although leprologists generally agree that it is too early to speak of the new agent as definitely curative Some other members of the sulfone group gave similarly encouraging results Some of the latter, notably sulfoxone sodium (diasone®), which recently was accepted by the Council on Pharmacy and Chemistry of the American Medical Association, may be given by mouth Results with the sulfone drugs put the treatment of the disease in the hands of the practicing physician, although most physicians no doubt will prefer to have the treatment inaugurated at Carville

The changes in the public health point of view are to some extent due to the development ot a more hopeful outlook for successful treatment but are associated more with a somewhat belated recognition of certain not widely appreciated features in the epidemiology of the disease There are limited areas in which the disease tends to spread in the United States, mainly in parts of Florida, Louisiana and Texas Elsewhere the disease shows little or no tendency to be communicable California is the nearest to being the exception to this generalization The records show that, of about 600 cases reported, only 23 probably have been infected in that state, the remainder having been infected elsewhere In New York state and Vermont the lack of danger of infection long has been recognized, and these states do not require reporting of the disease Massachusetts does not have restrictions concerning minimum periods of isolation of patient and quarantine of contacts Ten other states do not have leprosy regulations except for notification The health authorities of at least some of these states probably were impressed by the experience of many years which has failed to bring to light any case of infection originating in New York, and only one was discovered in Massachusetts, although there have been many opportunities for contact with cases of this disease in both states

Another influencing factor is the recognition that, even in areas of endemic prevalence, only persons discharging or likely to discharge the causative organism are sources of new infections Furthermore, it is becoming increasingly accepted that with some exceptions infection is likely to occur only in the early years of life, although there may not be clinical manifestations for many years because of the long incubation or latent period This stresses the need for preventing the exposure ot infants and young children

With the general acceptance of these changing concepts, the clinical treatment and the public health management of leprosy can be viewed with more optimism than formerly was possible In these days, when so much emphasis is being placed on the organization of research and the necessity of large funds to carry it on, it is significant to recall that the advances in control of leprosy have been made by careful clinical observation and epidemiologic facts judiciously appraised without special organization or special financial support

Current Comment

POSTPARTUM PLASMA AND RHEUMATOID ARTHRITIS

In 1938 it was reported by Hench[1] that the occurrence of pregnancy in patients with rheumatoid arthritis produces a partial or complete remission of symptoms in a high percentage of cases Following this lead, Granirer[2] of the Arthritic Clinic, Queens General Hospital, Jamaica, New York, found that a sustained remission can be produced by administration of a suitable amount of postpartum plasma The remission is characterized by an improved sense of well-being, a brighter mental outlook, increased appetite, disappearance of joint symptoms, gain in weight, and a restoration to normal of the microcytic anemia and albumin globulin ratio There were no toxic effects in 320 postpartum plasma transfusions performed in his clinic The longest remission was 16 weeks and the shortest 3 weeks At present there is no clear explanation of the ameliorating effect of postpartum plasma

TAXES AND PENSIONS FOR PHYSICIANS

Under existing federal tax laws, physicians who practice as individual proprietors or partners face certain tax inequities with respect to pensions Elsewhere in this issue (page 1357) Dickinson points out that section 165(*a*) and related sections of the Federal Internal Revenue Code provide that a company can set aside funds under approved plans for employee pensions or shares in profit-sharing trusts which are deductible from the company's income as business expenses and, therefore, are not subject to income taxes These funds do not become a taxable part of the recipient's income until they are received, either when the recipient retires or when he cashes in on his profit-sharing account—at which time he will presumably be in a lower income tax bracket with a reduced tax burden Only physicians and other professional men who are employees —for example, company physicians and company lawyers—can receive the benefits of such pensions A physician undergoes a long training period (the longest among the professions) during which he foregoes income and incurs expenses accumulating to approximately $35,000 at the time of entering medical practice, at approximately age 28 The working lifetime remaining after this prolonged training period is shortened, and a considerable portion of his lifetime earnings is "bunched" into a relatively few peak earning years During these peak earning years he is placed in a higher income tax bracket and hence pays more income taxes during his lifetime than another person who receives the same lifetime income spread more evenly over a greater number of years Thus the question of pensions for physicians acting as individual proprietors and partners is particularly perplexing for them because of the unusual economic pattern of their professional lives

ACTIVE HYDROLYSIS PRODUCTS OF ACTH

The adrenocorticotropic hormone of the pituitary has been found to have a marked effect on a wide spectrum of disease processes Since the hormone is derived from the pituitary of animals, the ultimate quantity of drug which could be produced is definitely limited by the supply of pituitaries Also, since the hormone is protein in nature, with a molecular weight of about 20,000, its synthesis in the laboratory would be of insurmountable difficulty Li[1] reported that, after partial hydrolysis of pituitary adrenocorticotropic hormone to the peptide stage, fragments were obtained which retained biologic activity These fragments had an average chain length of eight amino acids Recently, Brink, Meisinger and Folkers[2] reported that ACTH derived from pig pituitaries was subjected to peptic digestion The digestion products, of molecular weight small enough to be dialyzable, kept rheumatoid arthritis in remission in 2 patients who previously had been treated with ACTH In addition, this dialysis was clinically active in a third patient The effect of these degradation products was equivalent to the intact ACTH On further acid hydrolysis, these active fragments were found by paper strip chromatography to contain at least seven or eight common amino acids This work is of considerable importance from both the medical and biochemical point of view With the activity of ACTH being confined to a relatively small molecular weight compound, it should be possible eventually to synthesize this active fragment in the laboratory This, in turn, would free the amount of drug which could be produced from the number of pituitary glands available In addition, evidence is added for the first time that a portion of a protein hormone may possess the physiologic activity of the intact molecule, indicating that the hormone in such a case may be considered to possess a prosthetic group

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[1] Hench P S, Proc Staff Meet, Mayo Clinic, **13** 161, 1938

[2] Granirer L W, 7th Int Cong Rheumatic Dis, New York June, 1949 Science **111** 201 (Feb) 1950

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[1] Li, C H Conference on Metabolic Aspects of Convalescence, 1948 Transactions of the Seventeenth Meeting New York, Josiah Macy, Jr, Foundation, 1949, p 114

[2] Brink N G, Meisinger, M A P, and Folkers, K J Am Chem Soc **72** 1040 (Feb) 1950

ORGANIZATION SECTION

Official Notes

CIVIL DEFENSE

Representatives of the state and territorial medical societies allied professional groups and various federal governmental agencies will participate in the next meeting of the Council on National Emergency Medical Service, which will be held at American Medical Association headquarters, May 6, 1950 During this meeting, which will be concerned entirely with the medical and health aspects of civil defense planning, both formal presentations and round tables will be utilized to enable those present to acquaint themselves with various civil defense problems confronting the health professions the civil defense aspects of the newer warfare agents, the federal government's training programs in the medical aspects of atomic warfare and the experiences of others who have planned and organized civil defense programs

Washington Letter

(From a Regular Correspondent)

April 24, 1950

Hospital Care of Retired Military Personnel

An executive order issued recently by President Truman will have the effect of increasing responsibility of military hospitals for care of retired service personnel and lightening the burden of Veterans Administration hospitals Effective May 1, the Army, Navy and Air Force will furnish hospitalization as required, for their own officers and enlisted men who have been retired for physical disability Heretofore, the three services fulfilled this responsibility for regular officers but, in the case of Army and Air Force reserves, they were cared for in Veterans Administration facilities In the past the Navy has provided hospitalization for regulars and reserves alike The presidential order not only requires that hospitalization be administered on a common basis but specifies that enlisted men retired for physical disability shall be treated on the same basis as officers

The directive also makes Veterans Administration responsible for hospitalization of chronic cases After October 1 its facilities will care for all retired military personnel suffering from 'chronic arthritis, malignancy, psychiatric or neuropsychiatric disorder, paraplegia, tuberculosis and such other diseases as may be jointly defined by the Administrator of Veterans Affairs, the Secretary of Defense and the Federal Security Administrator, according to the White House order

Previously no distinction was made between chronic and acute conditions as far as hospitalization responsibilities were concerned The decision to refer chronic cases to veterans hospitals was in conformity with recommendations made last year by the Hoover Commission

D A R Reaffirms Stand Against Socialized Medicine

The continental congress of Daughters of the American Revolution adopted a resolution in Washington April 19 reaffirming action which it took in 1949 in opposition to compulsory health insurance Its text is as follows Whereas, powerful forces are at work to enforce the passage of a compulsory health insurance or socialized medicine act, and, whereas such action would mean further heavy taxation through the creation of another huge bureaucracy, and, whereas, such legislation would violate the freedom and individual liberty of the people of the United States of America, and whereas, such government invasion in the field of medical care could open an avenue of advance into other professions with a welfare state or socialism the inevitable result Resolved that the National Society, Daughters of the American Revolution vigorously opposes legislation designed to create state medical care with its vast extension of a parasitic bureaucracy which could result in a socialistic state in violation of the principles set forth in the Constitution of the United States of America"

Dr Battenfield to Become Guam Medical Director

In the course of an official trip to Washington the latter part of April Carleton Skinner civilian governor of Guam, disclosed that Dr John Y Battenfield has accepted appointment as director of medical services for the island government. A reserve officer of the Army Medical Corps whose World War II duty was followed by civilian service on rubber plantations in Liberia Dr Battenfield is a medical graduate of the University of Oklahoma and holds his master s degree in public health from Johns Hopkins University He is expected to report for his Guam assignment late in May

Board Meets at Army Medical Center

Walter Reed Hospital, of the Army Medical Center in Washington, had the distinction April 14-16 of being the first Army hospital to be host to an American specialty board assembled to examine applicants for certification About 100 applicants appeared for oral examination by the American Board of Dermatology and Syphilology Examinations were conducted by nine board members and four guest examiners in the hospital s dermatology clinic.

Congress Passes Pathology Institute Bill

A bill (H R 6539) authorizing $350 000 for architectural planning of a new building for the Armed Services Institute of Pathology was passed by the Senate April 19 and sent to President Truman for approval The measure previously had passed the House. It provides that the structure shall be erected on grounds of the Army Medical Center in Washington. At present the institute occupies buildings of temporary wartime construction about one mile west of the Capitol

Medical Legislation

STATE LEGISLATION

California

Bill Enacted—H. Res 19 X was adopted March 31 1950 It provides for an investigation by the Assembly Interim Committee on Public Health into the need of legislation regulating the use of electrical therapeutic instruments

Kentucky

Bills Enacted—S 176 became law without approval March 27 1950 It provides regulations for the licensing and examining of professional nurses. S 178 became law without approval March 27 1950 It provides regulations for the licensing and examining of practical nurses.

Massachusetts

Bills Introduced—H 2407 proposes to authorize the department of public health to establish alcoholic clinics and to establish a comprehensive program for the study of the problems of alcoholism H 2408 proposes to authorize the department of correction to establish and operate at the state farm a clinic for the examination diagnosis and treatment of chronic alcoholics

Michigan

Bill Introduced—S C Res 10 X proposes to memorialize the Congress of the United States to appropriate additional funds for the purpose of hospital construction

Mississippi

Bill Enacted—S 14 was approved March 15 1950 It provides for the creation of a four year medical school as a department in the University of Mississippi.

New Jersey

Bills Introduced —A J Res 11 proposes the creation of a commission for the purpose of studying the subject of **cerebral palsy** S J Res 8 proposes the creation of a commission to study the problem of the misdemeanant **alcoholic and drug addict** S 309, to amend the medical practice act, proposes that any honorably discharged veteran who has attended and successfully completed all or part of his required medical and surgical training in a professional school of a foreign country in good standing in the opinion of the board and who otherwise is eligible for admission to examination to practice medicine and surgery, may be admitted to such examination notwithstanding the fact that such medical and surgical training in a foreign country is **not evidenced by a diploma or license** conferring the full right to practice all of the branches of medicine and surgery in the foreign country in which such school is located

Bills Enacted —A 275 has become chapter 25 of the Laws of 1950 It provides regulations whereby persons licensed to practice **osteopathy** in the state may secure a license to practice medicine and surgery provided they meet certain qualifications and make applications therefor within a certain specified time A 102 has become chapter 28 of the Laws of 1950 It requires every physician to report each case of **cerebral palsy** coming to his attention to the local board of health

New York

Bills Enacted — A 1299 has become chapter 153 of the Laws of 1950 It amends the education law by requiring school bus drivers to be examined by a duly licensed physician within two weeks prior to the beginning of each school year to determine the fitness of such driver to operate or continue to operate the school bus A 3270 has become chapter 302 of the Laws of 1950 It provides for creation within the department of mental hygiene of a mental hygiene council to consider any matters relating to the improvement of the state mental hygiene program and to advise the commissioner of mental hygiene thereon S 1335 has become chapter 563 of the Laws of 1950 It amends the law relating to *physical therapy* by including physical therapy and extends definition to electric and medicated baths and all types of therapeutic exercise

Virginia

Bill Enacted —H 397 has become Chapter 512 of the Laws of 1950 It amends the law relating to the licensing of clinical psychologists by requiring applicants to be graduates of a college or university accredited by a recognized regional accrediting agency or to have had other academic training or specialized experience which in the opinion of the board, is equivalent thereto

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Coming Medical Meetings

Aero Medical Association Chicago May 29 31 Dr Thomas H Sutherland 214 S State St Marion Ohio Secretary

American Association of Genito-Urinary Surgeons Hershey Penn Hotel Hershey May 24 26 Dr Norris J Heckel 122 S Michigan Ave Chicago 3 Secretary

American Association of the History of Medicine, Boston May 21 23 Dr Benjamin Spector 416 Huntington Ave, Boston 15 Secretary

American Association on Mental Deficiency Columbus Ohio Hotel Deshler Wallick May 16 20 Dr Neil A Dayton P O Box 96 Willimantic Conn Secretary

American Broncho Esophagological Association San Francisco Mark Hopkins Hotel May 25 26 Dr Edwin N Broyles 1100 N Charles St Baltimore 1 Secretary

American College of Chest Physicians San Francisco, June 22 25 Mr Murray Kornfeld 500 N Dearborn St Chicago 10 Executive Secretary

American College of Radiology San Francisco June 25 Mr William C Stronach, 20 N Wacker Drive Chicago 6, Executive Secretary

American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14 19 Dr F Bayard Carter Duke Medical School Durham N C Secretary

American Dermatological Association Jasper National Park Alberta Canada June 18 22 Dr Louis A Brunsting, 102 Second Ave S W, Rochester Minn, Secretary

American Diabetes Association San Francisco Hotel Whitcomb June 24 25 Dr John A Reed 1 Nevins St Brooklyn 17, Secretary

American Geriatrics Society New York Hotel Commodore June 1 3 Dr Milford W Thewlis 25 Mechanic St Wakefield, R I, Secretary

American Gynecological Society White Sulphur Springs W Va, The Greenbrier May 11 13 Dr Norman F Miller 1313 E Ann St Ann Arbor Mich Secretary

American Hearing Society Chicago Drake Hotel, June 15 17 Mrs Frances L Lee 817 Fourteenth St, N W, Washington 5 D C, Secretary

American Heart Association, San Francisco June 22 25 Dr Harold M Marvin 1775 Broadway, New York 19 Executive Secretary

American Laryngological Association San Francisco, May 23 24 Dr Louis H Clerf 128 S Tenth St, Philadelphia 7 Secretary

American Laryngological, Rhinological and Otological Society San Francisco May 25 27 Dr C Stewart Nash 277 Alexander St Rochester 7 N Y Secretary

American Medical Women's Association Carmel Calif June 20 22 Dr Grace Talbott, 909 Hyde St, San Francisco 9, Secretary

American Neurological Association, Atlantic City, Claridge Hotel, June 12 14 Dr H Houston Merritt 710 W 168th St, New York 32, Secretary

American Ophthalmological Society, Hot Springs Va The Homestead May 31 June 2 Dr Maynard C Wheeler 30 W 59th St New York 19 Secretary

American Orthopedic Association Virginia Beach, Va May 23 26 Dr C Leslie Mitchell Henry Ford Hospital Detroit 2 Secretary

American Otological Society San Francisco May 21 22 Dr Gordon D Hoople 1100 E Genesee St Syracuse 10, N Y Secretary

American Pediatric Society, French Lick Ind, May 8 10 Dr Henry G Poncher 1819 W Polk St. Chicago 12 Secretary

American Psychiatric Association, Detroit May 1 5 Dr Leo H Bartemeier General Motors Bldg Detroit 2 Secretary

American Radium Society New York Roosevelt Hotel May 25 26 Dr Hugh F Hare 605 Commonwealth Ave. Boston 15 Secretary

American Society for Clinical Investigation Atlantic City May 1 Dr Paul B Beeson Grady Hospital Atlanta 3 Ga Secretary

American Society for the Study of Sterility San Francisco Sir Francis Drake Hotel June 24 25 Dr John O Haman 490 Post St, San Francisco 2 Secretary

American Society of X Ray Technicians Columbus Ohio Deschler Wallick Hotel May 28 June 2 Genevieve J Eilert R T, 16 Fourteenth St, Fond du Lac Wis, Executive Secretary

American Urological Association Washington D C Hotel Statler May 29 June 1 Dr Charles H deT Shivers Boardwalk National Arcade Bldg Atlantic City N J Secretary

Arizona State Medical Association Phoenix Hotel Westward Ho April 30 May 4 Dr Frank J Milloy 234 N Central Ave Phoenix, Secretary

Association for Physical and Mental Rehabilitation Memphis Tenn Hotel Peabody May 23 27 Mr Benjamin Forman 57 Granger St Canandaigua N Y Secretary

Association for the Study of Internal Secretions, San Francisco June 23 24 Dr Henry H Turner, 1200 N Walker St Oklahoma City 3, Secretary

Association of American Physicians Atlantic City May 2 3 Dr Henry M Thomas Jr 1201 N Calvert St Baltimore 2 Secretary

California Medical Association San Diego April 30 May 3 Dr L. Henry Garland 450 Sutter St San Francisco Secretary

Conference of Presidents and Other Officers of State Medical Associations, San Francisco Palace Hotel June 25 Mr John E Farrell 106 Francis St Providence R I, Secretary

Connecticut State Medical Society Waterbury May 2 4 Dr Creighton Barker 160 St Ronan St New Haven Secretary

Hawaii Territorial Medical Association Hilo May 4 7 Dr I L Tilden Mabel Smyth Bldg Honolulu 13 Secretary

Illinois State Medical Society Springfield Illinois State Armory May 23 25 Dr Harold M Camp 224 S Main St. Monmouth Secretary

International and Fourth American Congress on Obstetrics and Gynecology New York Hotel Pennsylvania May 14 19 Dr Fred L Adair, 161 E Erie St Chicago 11 Information Headquarters

International Congress on Asthma Mont Dore France June 3-4 Secretariat 59 rue Bonaparte, Paris France

Kansas Medical Society Wichita May 15 18 Dr D D Vermillion, 512 New England Bldg Topeka Secretary

Maine Medical Association Poland Spring June 18 29 Dr Frederick R Carter 142 High St, Portland 3 Secretary

Massachusetts Medical Society Boston Hotel Statler May 16 19 Dr H Quimby Gallupe 8 Fenway Boston 15 Secretary

Medical Library Association, Boston June 19 22 Miss Helen Hlavac, 209 East 23d St New York 10 Secretary

Minnesota State Medical Association Duluth, June 12 14 Dr B B Souster, 496 Lowry Medical Arts Bldg St Paul 2 Secretary

Mississippi State Medical Association Jackson May 9 11 Dr T M Dye Box 295 Clarksdale Secretary

Nebraska State Medical Association Lincoln, Hotel Cornhusker May 1-4 Dr R B Adams 1315 Sharp Bldg Lincoln Secretary

New Jersey Medical Society of, Atlantic City Haddon Hall May 22 24 Dr Marcus H Greifinger 315 W State St, Trenton 8 Secretary

New Mexico Medical Society Las Cruces May 4 7 Dr H L. January 4852 Southern Ave Albuquerque Secretary

New York Medical Society of the State of New York May 8 12 Dr Walter P Anderton 292 Madison Ave, New York 17 Secretary

North Carolina Medical Society of the State of, Pinehurst The Carolina, May 1 3 Dr Millard D Hill 15 W Hargett St, Raleigh, Secretary

North Dakota State Medical Association, Grand Forks May 27 30 Dr O A Sedlak 702 First Ave S Fargo Secretary

Ohio State Medical Association Cleveland May 16 19 Mr Charles S Nelson 79 E State St Columbus 15 Executive Secretary

Oklahoma State Medical Association Oklahoma City June 4 7 Dr Lewis J Moorman 210 Plaza Court Oklahoma City Secretary

Rhode Island Medical Society Providence, R I Medical Library May 10 11 Dr Morgan Cutts 106 E Francis St Providence 3 Secretary

Society of American Bacteriologists Baltimore May 15 19 Dr John E. Blair 1919 Madison Ave New York 35 Secretary

South Carolina Medical Association Myrtle Beach May 16 18 Dr Julian P Price 105 W Cheves St Florence Secretary

South Dakota State Medical Association Mitchell May 20 23 Dr Roland G Mayer 22½ S Main St Aberdeen Secretary

Texas State Medical Association of Fort Worth May 2 5 Dr Harold M Williams 700 Guadalupe St. Austin Secretary

Western Association of Industrial Physicians and Surgeons San Francisco, June 25 Dr Christopher Leggo C & H Sugar Refining Corp, Crockett Calif Secretary

Western Branch American Public Health Association, Portland Ore., May 30 June 1 Mr Walter S Mangold University of California, Berkeley, Calif Secretary

GOVERNMENT SERVICES

ARMY

CIVILIAN INTERN PROGRAM

A number of positions are still available in the Army Medical Department's civilian intern program Interested persons should submit their applications as soon as possible. The recent adoption of uniform service standards for medical interns in the armed forces makes no change in the army program Service standards are

(1) Army internship served in a military hospital one year of further active duty in addition to each year of internship

(2) Army internship served in a civilian hospital two years of further active duty in addition to one year of internship

To be eligible for this year's program a candidate must be a potential graduate who will begin an internship during 1950 and must have been accepted for internship training in a civilian hospital acceptable to the Surgeon General Persons who previously submitted applications for internship in an army hospital and who were not tendered appointments may apply for the civilian program simply by completing two short forms A new physical examination will not be required at this time New applicants must file the complete set of forms, which may be obtained at any medical ROTC office or directly from the Surgeon General of the Army Army interns in civilian hospitals must satisfactorily complete eight months of internship to become eligible to participate in the professional examinations leading to appointment in the regular army

MEDICAL STUDENTS IN SUMMER TRAINING

Many more medical students are expected to take part in the ROTC summer training camp program in 1950 than attended in 1949 Last year nearly 1 500 students received six weeks summer training while this year the Army expects about 2 500 Six Army general hospitals among other places will be used for summer training They are Walter Reed, Washington D C Letterman San Francisco Fitzsimmons, Denver Brooke Fort Sam Houston Texas Madigan Tacoma Wash and William Beaumont El Paso Texas

Medical dental veterinary and pharmacy students will take their training in two camps the first beginning June 19 and the second August 7 Each camp will last six weeks Nonveteran ROTC students of the medical and dental corps and all pharmacy and veterinary students will attend camps at the Medical Field Service School. Junior and Senior veteran students of the medical and dental corps ROTC, will be trained at the Army general hospitals Veteran students of the medical and dental corps ROTC, scheduled to attend camp who have completed only the freshman or sophomore years of academic instruction will attend the camps at the Medical Field Service School The 1950 ROTC summer training camp will place primary emphasis on military medicine dentistry and surgery with additional training provided for veterinary and pharmacy students in the military application of their respective specialties ROTC veterinary and pharmacy students will also get small arms training

PSYCHIATRIC CONSULTANTS

Ten civilian psychiatrists and neurologists met April 12 in the office of the Surgeon General to discuss the army's treatment and training methods in this field and to make recommendations The ten civilians are all official consultants to the Surgeon General. Attending the meeting were Drs William C Menninger Topeka Kan John M Flumerfelt Cleveland, Malcolm J Farrell Waverly Mass , Calvin S Drayer and John W Appel Philadelphia John M Murray and Wilfred Bloomberg Boston, William H Everts New Rochelle, N Y , Frederick R. Hanson and M Ralph Kaufman New York

AWARDS AND COMMENDATION

Dr Murray M Copeland

The Legion of Merit was recently awarded to Dr Murray M Copeland Washington, D C The citation read as follows

'Colonel Copeland Medical Corps, performed exceptionally meritorious service in the South Pacific Area from July 1942 to May 1944 As Operating Surgeon, 142nd General Hospital as Assistant Base Surgeon and later as Commanding Officer 142nd General Hospital, he rendered service to the Army worthy of its highest ideals and in keeping with the acme of professional standards'

Dr Copeland graduated from Johns Hopkins University Medical School, Baltimore, in 1927 and entered the military service in 1942 He is now professor of oncology at Georgetown University Medical School

NAVY

ANNUAL INDUSTRIAL HEALTH CONFERENCE

The Navy's second annual Industrial Health Conference will be held in conjunction with the thirty-fifth Annual Meeting of the American Association of Industrial Physicians and Surgeons and associated groups of industrial dentists industrial hygienists and industrial nurses on April 22-28 in the Hotel Sherman Chicago The objectives of the Navy group conference are to provide an opportunity for co-workers in the field to discuss common problems in the administration of the Navy industrial health program, to afford an opportunity for exchange of ideas on professional and technical aspects of occupational medicine to provide opportunity for medical personnel of naval industrial plants to meet leaders of national prominence with a view toward increasing their efficiency, and to insure that the navy industrial health program is conducted in the light of modern concepts and knowledge

A panel session will be held at a joint meeting of all groups The moderator of the panel session will be Gen Fred M Gillies Chicago Admiral Clifford A Swanson the Surgeon General will discuss 'Military Industrial Problems

PERSONAL

Comdr Donald J O Brien (MC, USNR) of Omaha, Neb is being recalled to active duty at his own request.

Lieut Granville I Walker Jr has been nominated to a residency in internal medicine Naval Hospital St. Albans Long Island N Y under the Navy's Graduate Medical Training Program

The following reserve medical officers on active duty have been appointed to the regular Navy Medical Corps Lieut Comdr Arthur V Miller Jr Monroe La Lieut William E Fraser, Scarsdale, N Y and Lieut (jg) Marshall G Morris Jr, Greensboro N C

AIR FORCE

MEDICAL OFFICERS FOR DUTY WITH AIR FORCE

The Navy will order an additional 100 medical officers to duty with the Air Force The Bureau of Medicine and Surgery has sent letters to *all inactive* naval reserve medical officers of the rank of lieutenant commander and below who are less than 40 years old, asking for volunteers for this temporary assignment to active duty These volunteers will be accepted for tours of duty of one or two years to fill the present and anticipated vacancies within Continental United States and, if desired, in overseas theaters They will receive full pay, allowances commensurate with their rank and, in addition, $100 per month as authorized for medical officers on active duty

VISIT OF AVIATION MEDICINE EXPERT

At the invitation of Gen Hoyt S Vandenberg, Chief of Staff, and Major Gen Harry G Armstrong, Surgeon General, Dr Robert Staempfli of Berne, Switzerland, an authority on aviation medicine, arrived in the United States March 26 for an eight week visit Dr Staempfli has performed research in biophysics and aviation medicine During his visit he will confer with Dr Richard L Meiling, Director of Medical Services of the Department of Defense, General Armstrong and Dr Richard Coe of the Naval Medical Research Institute at Bethesda, Md After visiting various medical centers Dr Staempfli will return to Washington and thence to Switzerland

PUBLIC HEALTH SERVICE

MENTAL HEALTH CLINICS

There were 485 mental health clinics in operation in the United States in 1947, according to a compilation made by the National Institute of Mental Health Of the 485 clinics, 58 per cent were located in the Middle Atlantic and East North Central states New York had 95 clinics, the largest number in any state, other states with 20 or more clinics were Illinois, Michigan, Ohio, Pennsylvania, New Jersey, Massachusetts and California No clinical services were available in Idaho, Wyoming, Nevada, Utah South Dakota, Alaska and the Virgin Islands Traveling clinics numbered 82 and reported an average of three hours of service a week to 739 communities Hospitals or public health departments conducted 62 per cent of the clinics About 100 clinics operated independently, many were financed through a Community Chest The remainder were operated in connection with public schools, courts, colleges and medical schools and departments of public welfare

TWO GERMAN FELLOWSHIPS

Two German physicians have arrived in the United States for special training under a fellowship program sponsored by the U S High Commissioner for Germany Both fellowships are for three months Dr Hans Schlossberger will study the application of the sciences of bacteriology and chemotherapy for the control of disease and the teaching and practice of preventive medicine here Dr Schlossberger has been a member of the Institute of Hygiene University of Frankfurt, since 1946 Prior to that he was with the Institute of Hygiene of the University of Jena He received his medical degree from the University of Tübingen in 1913 Dr Henryk Nowakowsky will consult with leading scientists conducting clinical studies in endocrine disturbances, he is particularly interested in the relation of diseases of the hypothalamus and the hypophysis to sexual disturbances Dr Nowakowsky is a medical assistant in the Max-Planck Institute of Brain Research in Giessen He received his medical degree from the University of Berlin in 1938

LIBRARY TRAINING PROGRAM

A second 50 week course of specialized instruction under the medical record library training program of the Division of Hospitals will begin September 11 Students wishing to enrol must have their applications on file by July 15 The school, which is the first program of its kind in the federal service, is conducted at the U S Marine Hospital, Baltimore The training course is approved by the Council on Medical Education and Hospitals of the American Medical Association The full course consists of two years of instruction leading to the Associate in Arts degree at Baltimore Junior College, followed by a year of specialized training at the hospital Advanced students who meet the qualifications for the third year of study may be admitted directly to the hospital The class which begins in September is limited to 12 medical record library students Applicants must have completed 60 semester hours of class work creditable toward a degree to be eligible Graduates of the course may be given an opportunity to join the Public Health Service, but are not obligated to do so

Application forms and information regarding the program are available from the Division of Hospitals, Public Health Service, Federal Security Agency, Washington 25, D C

DATA ON OCCUPATIONAL DISEASES

A two year study to determine the feasibility of a system for collecting reports of occupational diseases on a national scale will be initiated in May by the Division of Industrial Hygiene in cooperation with 10 states participating in the pilot study (Connecticut, Florida, Georgia, Indiana, Michigan, New Hampshire, New York, South Carolina, Tennessee and Wisconsin)

The 10 states have varying systems for reporting occupational diseases If the study shows that a system of collecting the reports is feasible, the Division of Industrial Hygiene will seek to establish a national collection system through a cooperative program with state and local industrial hygiene units now in operation in 45 states and the District of Columbia At present, reporting occupational diseases to state health departments is required in 26 states The states participating in the pilot survey have agreed to use a specially designed transmittal form for reporting occupational diseases to the Public Health Service The study is expected to reveal some of the problems and difficulties in establishing a national system of occupational disease reporting and the strength and weakness of the different methods used by states in collecting information on these diseases

MEETINGS OF STUDY SECTIONS

Seventeen of the 18 study sections of the National Institutes of Health, research branch of the Public Health Service, will meet in May The study sections have as members outstanding authorities in each of the major fields of medical research The majority of these special consultants are nongovernment scientists The study sections are responsible for reviewing applications for research grants in their respective fields and making recommendations to the appropriate advisory council of the Public Health Service They also review the status of research in their particular field in order to determine areas in which research should be initiated or expanded

PERSONAL

Dr Lyndon F Small, chief, Section on Chemotherapy, Laboratory of Chemistry and Chemotherapy, has been awarded the 1950 Hillebrand Prize for his contribution to the chemistry of alkaloids Dr Small, a graduate of Harvard, has been with the National Institutes of Health since 1939

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest such as relate to society activities new hospitals education and public health Programs should be received at least two weeks before the date of meeting)

ALABAMA

Hospital News—Construction was undertaken in March on the new Druid City Hospital at Tuscaloosa a 200 bed institution to be completed at an estimated cost of $3,000 000 A modern hospital for general acute diseases and a nurses' home are included in the project

Portrait Unveiled.—The portrait of Dr James M Mason, professor of surgery at the Medical College of Alabama, Birmingham was unveiled February 5 at Jefferson-Hillman Hospital where he is surgeon in chief emeritus Dr Mason a graduate of Tulane University of Louisiana School of Medicine, New Orleans in 1899 has completed 50 years of service in the medical profession

CALIFORNIA

Personal—Dr C Glenn Curtis of Brea who since last May has been in Quito Equador as chief of a field party directing sanitation problems returned March 9 to resume practice He also directed medical assistance when a series of earthquakes occurred in central Equador last August

Old Age Research Seminar — Sponsored by the Social Science Research Council a seminar on old age research problems and methods will be held this summer on the Berkeley campus of the University of California under the chairmanship of Harold E. Jones Ph D professor of psychology at Berkeley Representatives of the medical legal and social science fields will participate in the nine week study

Maimonides Hospital Opens in May—The Maimonides Health Center an 83 bed nonprofit hospital for persons with long term illness will open for patients about May 1 The hospital is named for the twelfth century physician and philosopher Maimonides one of the great personalities in the history of medicine The hospital will provide therapy for patients with chronic diseases Physical therapy and hydrotherapy departments have been established. In the eight story structure, all patients rooms have a southern exposure On the second floor are a patients' dining room, lounge with a library on a mezzanine, and kitchen facilities On the top floor are the therapy rooms in the floors between are private patients' rooms two bed and four bed rooms The building contains many unique features

ILLINOIS

Typhoid in State at Record Low—The state director of public health reports that only 1 death from typhoid was recorded in Illinois last year as compared with 33 in 1940 As late as 1921, nearly 400 persons died of typhoid while at the turn of the century nearly 2 000 persons died of this disease annually The state health department now has records of 452 carriers of typhoid and paratyphoid who reside in Illinois Through full time city county and district health officers a constant vigil is kept on the carriers to see that they keep faith with the regulations which are necessary to safeguard public health

Chicago

The Bacon Lecture—The Charles Sumner Bacon Lecture will be delivered in room 221 at the University of Illinois May 3 at 1 p m by Dr Harold L Sheehan, professor of pathology, University of Liverpool, England, on The Pathology of Toxemias of Pregnancy "

Grant for Scholarship—A $10 000 gift from an anonymous donor has been presented to the Chicago Medical School in honor of Drs Milton S Saslaw Howard A Engle and Morris H Blau of Miami Beach The gift will be designated a Subsidiary Scholarship and will be used to subsidize the education of a medical student at the school for a period of four years

Personals—Dr George H Pollock of the University of Illinois College of Medicine has been awarded a fellowship in the amount of $4 000 by the Commonwealth Fund of New York City to enable him to complete his training at the Illinois Neuropsychiatric Institute The fellowship was given with the expectation that Dr Pollock will assume duties as a member of the University's department of psychiatry, where he is an assistant——Dr Maurice H Cottle was guest speaker at the Colorado Otolaryngological Society meeting in Denver April 12 His subject was Physiologic Basis for Rhinoplastic Procedures '

Intern and Resident Reunion.—The Presbyterian Hospital Intern and Resident Reunion will take place June 6 at the hospital A clinical program with morning and afternoon sessions will be held A buffet luncheon will be served at the hospital at 12 30 and a dinner at the Congress Hotel at 6 p m. Reservations should be made through the medical director s office of the hospital

Dinner in Honor of Dr Hoyne—Friends and former students of Dr Archibald L Hoyne are invited to attend a dinner honoring him June 1 in the Congress Hotel at 6 30 p m. Dr Hoyne recently retired after serving 30 years as medical superintendent of the Chicago Municipal Contagious Disease Hospital Information may be obtained from Dr Rowine H Brown, Seeley 8 2500

District Office for Crippled Children.—Dr Edward Press has been appointed as associate director of the University of Illinois' Division of Special Services for Crippled Children, in charge of the Chicago district office at 222 W Adams Street. Dr Press has served as regional medical director in the Chicago office of the U S Children's Bureau since 1947 He served in the Army Air Force for three and a half years during the recent war Dr Press received his M D degree from New York University College of Medicine in 1937 and his M P H from Harvard School of Public Health in 1947 He is a specialist certified by the American Board of Pediatrics Extension of the program of the division on an exploratory basis to include Chicago children who have rheumatic fever or other types of heart disease has been announced by the university The program of the Division of Special Services for Crippled Children has been confined largely to children who live in downstate Illinois A total of 9 075 children received treatment last year The division is the official state agency to provide medical, surgical corrective and other services and facilities for diagnosis, hospitalization and after-care of children who are crippled or who are suffering from conditions which lead to crippling It is operated by the Board of Trustees of the University of Illinois

KENTUCKY

Appoint Field Secretary — Mr Robert Poisall has been appointed field secretary for the Kentucky State Medical Association He will act as coordinator between the association s headquarters in Louisville and its members throughout the state and will also make arrangements to offer the services of doctors as speakers in their communities, promote friendly relations between the medical profession and the public and aid in editing the journal of the association Mr Poisall was sports editor and columnist of the Danville (Ill) *Commercial-News* for 24 years

Cancer Society Honors Dr Aud—Dr Guy Aud Louisville, has been presented a medallion from the American Cancer Society for 'distinguished service in cancer control " The presentation was made by Dr Elmer L Henderson President-Elect of the American Medical Association The award is made annually by the society Dr Aud is the first Kentucky doctor to receive the medallion He was formerly chairman of the Board of the Kentucky Division, American Cancer Society and is now regional medical director for fourteen Southeastern states for the society and a member of its national board of directors The division has a cancer mobile unit, holds an annual symposium on cancer and has organized every county in the state for cancer control

MASSACHUSETTS

State Medical Meeting in Boston.—The annual meeting of the Massachusetts Medical Society will be held at the Hotel Statler Boston May 15-18 under the presidency of Dr Arthur W Allen Boston Out of state speakers at the general sessions include

Hart E Van Riper New York, Epidemic Poliomyelitis
Howard A. Rusk New York Rehabilitation of Hemiplegics
John H Powers Cooperstown N Y Farm Injuries
William Bierman New York Physical Medicine in Treatment of Peripheral Nerve Injuries.
Wendell C Scott St Louis Importance of Recognizing Early Cancer of the Colon
Theodore E Woodward Baltimore Treatment of Infectious Diseases with the Newer Antibiotics
E. Jefferson Browder Brooklyn Management of Head Trauma
Emanuel M Papper New York The Anesthesiologist as a Practitioner of Medicine in the Community
Edmond J Farris Ph D Philadelphia Management of Sterility
Donald M Pillsbury Philadelphia, Management of Chronic Dermatiti

The annual oration will be presented Tuesday morning by Dr John W O Meara, Worcester on Safe Management of Fractures" Dr Merrill C Sosman Harvard Medical School Boston, will deliver the Shattuck Lecture Wednesday at 11 a m on "The Specificity and Reliability of Roentgen Diagnosis" A symposium on Peripheral Vascular Diseases is scheduled for Tuesday afternoon Speakers will be Drs Edward A Edwards, Chilton Crane, Robert R Linton, Boston, David W Barrow, Lexington, Ky, and Capt Henry W Hudson (MC, USNR, retired), Chelsea "What About Medical Laboratory Technologists?" will be discussed Wednesday afternoon by Drs Robert A MacCready, Boston, and Donald A Nickerson, Salem, Mrs Elinor Judd, M T, and Prof Philip M Richardson, Ph D, both of Boston Guest speaker at the annual dinner Wednesday at 7 p m will be Claude M Fuess, Ph D, Chestnuthill, Mass Section meetings will also be held Technical and scientific exhibits will be displayed

MICHIGAN

Institute on the Aging Population—The Institute for Human Adjustment, in cooperation with the Extension Service of the University of Michigan, will present the Third Annual Institute on Living in the Later Years in Ann Arbor June 28-30 The program includes discussions of the aging population in relation to mental health problems, medical problems and education Organized discussion groups and demonstrations are scheduled Persons interested in attending are invited to write to the University of Michigan Extension Service, 4524 Administration Building Ann Arbor

Postgraduate Training in Industrial Health—General Motors recently announced that in cooperation with the University of Michigan, Ann Arbor it is inaugurating a postgraduate training program in industrial health technics for young physicians who have completed their internships Under the program the physicians will be in the employ of General Motors for 12 months Eight months of this period will be served in the medical departments of General Motors and four months will be spent at the University of Michigan School of Public Health This program, which compares with the resident hospital training many young physicians now undergo in other fields of medicine and surgery, was conceived by Dr Max R Burnell, Flint medical director of General Motors Drs Henry F Vaughan, dean of the School of Public Health and Clarence D Selby, Detroit resident lecturer in industrial health at the university Any young man who has completed his internship in an approved hospital and is interested in industrial health work may apply for this training program through the General Motors Medical Director General Motors Building Detroit Young physicians now serving their internship may begin this rogram after July 1

MINNESOTA

Personal—Dr Kendall B Corbin, professor of neuronatomy in the Mayo Foundation, University of Minnesota, was appointed associate director of the Mayo Foundation, Rochester, on January 1 Dr Corbin will continue active medical practice as a consultant in neurology in the sections n neurology and psychiatry at the clinic

Report of Cancer Detection Center—Cancer was detected n 34 visitors to the University of Minnesota's Cancer Detection Center during the first two years of its operation A diagnosis was made in 30 cases on the first visit In the 1,732 examinations (53 per cent) which revealed ailments or physical defects equiring medical attention, doctors assigned to the center found, in addition to the 34 definite instances of cancer, 776 precancerous conditions, 564 benign tumors and 2,149 instances of noncancerous conditions calling for immediate treatment Rectal polyps accounted for 369 of the 776 instances of precancerous lesions Many in whom abnormal conditions were discovered were found to be suffering from two or more different ailments The center is open to Minnesota men and women 45 and over who are unaware of any symptoms of cancer in themselves A fee of $10 is charged those who are able to pay Opened in March 1948 as a project of the university's medical school, the center is located just west of University Hospitals in Minneapolis Its operation is financed in part by the Minnesota state division of the American Cancer Society, the National Cancer Institute of the U S Public Health Service and the university's malignant disease research fund Staffed by the director and 18 doctors who serve on a part time basis, the center is now open four days each week, Monday and Wednesday for the examination of men and Tuesday and Thursday for women The average examination load is 15 per day and 60 per week Admission to the center is by appointment only To date more than 21 000 applications for appointments have been received

MISSISSIPPI

State Medical Meeting in Jackson—The Mississippi State Medical Association's annual meeting will be held May 9-11 at Convention Hall and the Robert E Lee Hotel in Jackson, under the presidency of Dr Braxton B O'Mara, Biloxi Out of state speakers include

Vida H Gordon Little Rock Ark, Allergic Diseases in Infants and Children
Arthur A Caire III New Orleans Blood Coagulation and Hemorrhagic Disease in Infants and Children
Olin E Hallberg Rochester, Minn Nose Bleed and Its Management
Alston Callahan Birmingham Ala Surgery of Glaucoma
R Lee Clark Jr Houston Texas Treatment of Cancer of the Head and Neck
Duane M Carr, Memphis, Tenn Suppurative Diseases of the Lungs and Bronchi
Euclid M Smith Hot Springs Ark What the General Practitioner Needs to Know About Rheumatoid Arthritis Including Remarks on Cortisone and ACTH
Robert L Brown Emory University Ga Care of the Cancer Patient in General Practice
E Lee Dorsett St Louis Unusual Complications in Obstetrics
Mark S Dougherty Jr Atlanta, Ga, Management of the Patient with Hypertension
J Edwin Wood Charlottesville Va, Management of Acute Renal Insufficiency with Particular Reference to Internal Lavage

The Distinguished Doctor's Oration will be delivered by Dr James P Wall, Jackson The Woman's Auxiliary will meet May 8-10 at the Heidelberg Hotel The state Pediatric Society and the state chapter of the American Academy of General Practice will hold meetings during the convention

NEW JERSEY

Personal—Dr William C Williams of Rutherford has been awarded a gold plaque as one of three authors of the 'most distinguished books of 1949" The American Book Industry selected Dr Williams' "Paterson Book III" and "Selected Poems"

Symposium on Roentgenology—The Morris County Medical Society heard a symposium by local roentgenologists April 20 Dr Ernest A May, East Orange, discussed "Carcinoma of the Lung,", Dr Gail W Haut, Morristown, "The Use of X-ray in Cardiac Measurement," and Dr H Vogel, Morristown, "Differential Diagnosis with Chest X-rays" A discussion followed the presentations

Program for General Practitioners—The New Jersey Academy of General Practice and the General Practice Section of the Medical Society of New Jersey will hold a combined meeting May 24 at 10 30 a m at the Haddon Hall Hotel, Atlantic City Dr William D Stroud, Philadelphia, will speak on "Heart Disease and the General Practitioner", Dr Aaron H Horland, Newark, "The General Practitioner, His Place in 1950 Medicine," and Dr Herman H Tillis of Newark on "Rheumatoid Arthritis in General Practice" The discussion following each presentation will be led by two state physicians

NEW YORK

Plan Courses in Medical Aspects of Atomic Disaster—Deans of nine medical schools of New York state met March 17 at the invitation of Dr John J Masterson, president of the Medical Society of the State of New York and Dr Herman E Hilleboe, state commissioner of health, to work out plans for postgraduate education of physicians in the medical aspects of atomic explosion It was agreed that the medical schools would arrange for the courses of study and the selection of instructors in consultation with the state medical society and the state and city health departments The medical society would assume leadership in mobilizing the doctors in every district in the state to attend the postgraduate meetings The health departments would lend financial aid to pay for training of instructors and payment of lecturers and, in addition, would use the regional, county, city and district health officers to assist in local arrangements A one day intensive course for all doctors to be held early in the fall will be the first goal It may be necessary to hold as many as 60 separate meetings throughout the state Longer courses for special groups will be held during the summer and fall

Long Island College Merges with State University—Articles of merger between the State University of New York and the Long Island College of Medicine were signed at a ceremony in the Waldorf Astoria April 5 The college will henceforth be under the State University's Board of Trustees, and the Board of the Long Island College of Medicine will pass out of existence All of the physical and other assets of the college become the property of State University These include a three acre site for future development on Kingston Avenue, Brooklyn, near Kings County Hospital and a capital fund of about $2,000,000, approximately 85 per cent of which is in endowment Simultaneously State University takes over the leases on properties used by the college. The Long Island College of Medicine, incorporated under that name in 1930, stems directly from the former Medical College of the Long Island College Hospital chartered in 1857 Since March 1860, 7 824 students have been granted the degree of Doctor of Medicine, of these 3 545 are living The Board of Trustees of the State University, charged by law with the duty of creating two medical centers, one in New York City and the other upstate, decided last June that the best interests of the state would be met by taking over and expanding going colleges rather than by inaugurating new ones The committee of the Kings County Medical Society has offered the use of its library

Carlyle Jacobsen Ph D, now executive dean of the Division of Health Sciences and Services at the State University of Iowa in Iowa City will assume duties in June on a full time basis as executive dean for medical education at State University of New York with headquarters at Albany The several schools in each medical center will be directly administered by resident officers

New York City

Bancroft Lecture on Cancer Surgery—The second Frederic W Bancroft Lecture in Surgery sponsored by the Alumni Association of Beth-David Hospital will be delivered at the hospital May 3 by Dr Allen O Whipple Valentine Mott professor emeritus of surgery Memorial Hospital New York, on Radical Surgery in the Treatment of Cancer '

Hospital Installs X-Ray Therapy Machine—A 2 000 000 volt x-ray therapy machine will be installed at the Hospital for Joint Diseases. Work on a three level building in which the machine will be housed began April 16 It will be named the Lila Motley Memorial The Lila Motley League for Cancer Research raised and contributed to the hospital $153 000 of the contemplated $300,000 cost for construction of the building and purchase of the x-ray machine Part of the balance of the costs will be provided from the Building Fund of the Federation of Jewish Philanthrophies of New York with which the hospital is affiliated

Postgraduate Course in Rheumatic Fever—This course for physicians will be conducted June 1-14 at the St Francis Sanatorium for Cardiac Children in Roslyn L I under the direction of Dr Leo M Taran The course consists of lectures and discussions supplemented by examination and study of patients demonstrating all clinical phases of rheumatic disease Part of the time will be devoted to roentgenography and electrocardiography and other laboratory procedures Treatment will be studied in detail. Fee for the course is $75 Applications should be submitted before May 1 For information address Rev Mother Superior F M M, Supt, St. Francis Sanatorium for Cardiac Children Roslyn, L. I

OHIO

Seminar on Cardiovascular Disease—This one day seminar will be presented May 14 at the Gibson Hotel in Cincinnati by the Southwestern Ohio Society of General Physicians in collaboration with the University of Cincinnati College of Medicine Drs Marion A Blankenhorn and Eugene B Ferris will be moderators Dr Ralph E Dolkart Chicago will discuss 'Management of Acute Cardiac Failure and Common Cardiac Arrhythmias" Other subjects include Diagnosis of Coronary Occlusion Prevention and Treatment of Rheumatic Heart Disease and Management of Hypertensive Disease The fee is $10, payable to J Robert Hudson M D, Secretary 7017 Miami Ave Madeira

State Medical Meeting in Cleveland—The Ohio State Medical Association will hold its annual meeting May 16-18 with headquarters in the Public Auditorium, Cleveland under the presidency of Dr Carl A Lincke Carrollton Out of state speakers at the general sessions include

George J Andros Chicago Present Day Practice in Obstetric Analgesia
Ralph M Tovell Hartford Conn. Modern Concepts of Anesthetic Management for Gynecologic and Obstetric Patients
The Honorable Robert A Taft Washington D C Progress in Medical Care
George F Lull Chicago Secretary and General Manager of the American Medical Association
Fred J Hodges Ann Arbor Mich Full Scale X Ray Chest Examinations
Jerome W Conn Ann Arbor Mich, Metabolic Effects in Man of ACTH and Cortisone (Compound E)
John P Caffey New York Primary Tuberculosis Complex Some Clinical and Roentgenographic Features

Informal discussions have been scheduled for instruction on handling clinical problems in everyday practice, and six formal panel discussions will be held Tuesday and Wednesday afternoons from 1 to 2 30 p m The annual banquet will take place Wednesday evening The Woman's Auxiliary to the association will meet in the Hotel Cleveland. Scientific and technical exhibits will be shown Section programs will be presented and several state specialty societies will hold meetings

TEXAS

University to Have Tuberculosis Hospital—The Texas State Board of Health has granted $300,000 to match funds provided by the late Mrs Rosa Zeigler to construct and equip a special hospital for tuberculosis patients at the University of Texas Medical Branch, Galveston. The building will have a capacity of 72 beds

Alpha Kappa Kappa Lecture—The chapters of Alpha Kappa Kappa at the University of Texas Medical Branch, Galveston and at Baylor Medical College Houston have established an annual lectureship The first speaker will be Dr Andrew C Ivy Chicago He will speak in Houston at the medical college May 16 and in Galveston May 17

Brain Tumor Conferences—Dr I Costero neuropathologist of the Cardiology Institute, Mexico City is offering a series of special conferences at the University of Texas Medical Branch, Galveston, during April and May on brain tumors, Monday and Friday afternoons, 3 to 5 p m Interested physicians are invited Dr Costero has been appointed visiting professor of neuropathology at the university and will spend a month each year at the Medical Branch to offer special instruction in neuropathology

VIRGINIA

Pediatric Meeting—The spring scientific meeting of the Virginia Pediatric Society will be held at the Hotel Roanoke in Roanoke May 5-6 beginning at 2 30 p m Guest speaker on Friday will be Dr William Parson of Charlottesville who will speak on 'Endocrine Aspects of Growth and Development in Children" On Saturday Dr Harry Bakwin New York will speak on 'Differential Diagnosis of Behavior Problems and will lead a round table on behavior problems at the close of the morning session

WEST VIRGINIA

Health Officers Organize—At a staff conference sponsored by the state department of health in Charleston March 10, the Health Officers Association of West Virginia was formally organized Drs Guy R Post, director of the Wood-Parkersburg Health Department, was named president Luke W Frame, of the Cabell-Huntington Health Department secretary and R. Moore Dodrill Jr of Welch, district health officer, treasurer

Personals—Dr S Elizabeth McFetridge of Sheperdstown was elected president of the West Virginia Cancer Society at the annual meeting held at the Kanawha Hotel in Charleston February 23 succeeding Dr Chauncey B Wright of Huntington——Dr Thomas S Knapp has been appointed superintendent of Spencer State Hospital where he has been acting superintendent since January 5 succeeding Dr Charles E Hamner who resigned to accept a position on the medical staff of the Columbus (Ohio) State Hospital Dr Knapp received his M D degree from Jefferson Medical School of Philadelphia in 1945 He was formerly on the staff of the former McGuire Hospital now a Veterans Administration Hospital in Richmond Va and served two years as a psychiatrist in the medical corps of the army during World War II

WISCONSIN

Child Care Memorial—The south side unit of the Child Care Center in Milwaukee will be named in memory of the late Dr Katharine H Baird, who served as medical advisor and board member of the center The Child Care Centers serve children of preschool age who cannot be satisfactorily cared for at home during the day Dr Karl H Beck Wauwatosa is Dr Baird s successor as medical advisor

Federal Aid Hospital Completed—Dedication ceremonies for the 33 bed general hospital at New Richmond the first to be completed in Wisconsin under federal aid were held Dec 28 1949 and the first patients were admitted January 2 The Y shaped building will be known as the Holy Family Hospital and will be operated by the Sisters of St Joseph on a non sectarian basis It serves three small cities eight villages and 14 townships

HAWAII

Drs Blalock and White to Address Annual Meeting —The annual meeting of the Hawaii Territorial Medical Association will be held May 4-7 in the American Legion Hall in Hilo under the presidency of Dr Howard E Crawford, Hilo Guest speakers include Dr Alfred Blalock, Baltimore, "Diagnosis and Treatment of Congenital Heart Disease Accompanied by Cyanosis," and Dr Paul D White, Boston, "Heart Disease in Middle Age" Dinner will be at the Volcano House Saturday evening The Hawaii Physicians' Art Association will hold its third annual exhibit After the meeting the two guest speakers will conduct a two weeks series of postgraduate lectures in Honolulu and will also address the Kauai and Maui counties medical societies

PUERTO RICO

Four New Health Centers —The U S Public Health Service has approved the building of four new health centers and hospitals in Puerto Rico under the federal hospital program Plans for the following projects are being made, the insular government paying one-third the cost of each A $156,000 health center in Camuy, a 38 bed general hospital and health center in San German to cost $300,000, alterations of the existing health center and construction of a 22 bed hospital in Vega Baja to cost $180,000 and a $112,500 new health center in Hormigueros

Establish Medical Training Program —The Office of Personnel of Puerto Rico in collaboration with the Insular Health Department, has established a program for training men and women in medical specialties The greater part of this training program is to be carried out in continental United States However, facilities offered by the School of Tropical Medicine in San Juan and the local district hospitals will be used for training medical technicians, social workers, public health and sanitary engineering personnel Several Puerto Rican physicians will take postgraduate courses in psychiatry, internal medicine, radiology and radiotherapy, pathology and tuberculosis College graduates will be sent to the United States universities to study hospital administration, medicosocial work, mental hygiene, dietetics social work supervision training of mental handicapped, administration of social institutions and public assistance Graduate nurses will be offered opportunity to get training both in Puerto Rico and in the United States

GENERAL

Association of American Physicians —This Association will meet at the Chalfonte-Haddon Hall, Atlantic City, N J, May 2-3, under the presidency of Dr Alphonse R Dochez, New York About 30 papers will be presented by members and invited speakers The association dinner will be held Tuesday at 7 30 p m, when Dr John R Paul, New Haven, Conn, will speak on "Clinical Observations on Archeology"

Meeting of Laryngologists —The American Laryngological Association will meet at the Mark Hopkins Hotel, San Francisco, May 23-24, under the presidency of Dr Ralph A Fenton, Portland, Ore The guest of honor, Olof Larsell, Ph D, Portland, Ore, will speak on "Nervus Terminalis" at the opening session A movie sound film on "Rehabilitation of the Laryngectomized Patient" will be presented Tuesday afternoon The President's Reception will take place at 6 p m Tuesday The Presentation of Instruments will be on Wednesday

Wins Award in Urology —Carl R Moore, Ph D, chairman of the department of zoology, University of Chicago, has been selected by the American Urological Association as recipient of its 1950 certificate of award and a check for $1,000 for outstanding and meritorious research on the male reproductive tract The award will be presented at the association's annual meeting in Washington, D C, on May 29 The Centre National de la Recherche Scientifique in Paris has invited Dr Moore to participate in a colloquium to discuss "Sexual Differentiation in Vertebrates" on June 5-12

Campaign Against Yaws in Haiti —A campaign against yaws and syphilis in rural areas of Haiti will be undertaken shortly by the Haitian Government, the World Health Organization and the United Nations International Children's Emergency Fund Dr Sacha Levitan, a consultant on venereal diseases with the Pan American Sanitary Bureau, Washington, D C, has been named technical director of the project Dr Adhemar Paoliello will help organize the campaign It will be extended to the Dominican Republic as soon as arrangements with the government have been completed The entire island thus will be included The Haiti Government will furnish all facilities and services, the Pan American Sanitary Bureau, as the regional office of WHO, will supply the technicians, and UNICEF will provide supplies

Prize for Research in Orthopaedic Surgery —A prize of $1,000 donated by the Kappa Delta Sorority, is awarded annually by the American Academy of Orthopaedic Surgeons for the best research in orthopedic surgery or a related field by an individual in the United States The award for the year 1950 will be presented at the eighteenth annual convention of the academy in Chicago Jan 31, 1951 Researchers interested in competing are requested to secure information from Dr R Beverly Raney, Duke Hospital, Durham, chairman of the award committee for 1950

Joint EENT Meeting —A joint meeting of the West Virginia Academy of Ophthalmology and Otolaryngology and the Virginia Society of Ophthalmology and Otolaryngology will be held May 7-9 at the Greenbrier Hotel in White Sulphur Springs, W Va The following out of state physicians are on the program

Bayart T Horton Rochester, Minn Histaminic Cephalgia
F Bruce Fralick, Ann Arbor, Mich Cataract Wound Closure with 6 O Absorbable Gut
Fred W Dixon Cleveland, Diseases and Treatment of the Hard and Soft Palate
Edwin B Dunphy Boston, Ocular Therapeutic Principles and Practical Application

The annual banquet will be held Monday evening at 8 o'clock. A golf tournament has been arranged Dr Francis H McGovern of Danville, Va, is president of the Virginia Society and will deliver the President's Address Monday on "Rhinological Aspects of Chronic Dacryocystitis" Dr Garnett P Morison of Charles Town is head of the West Virginia academy

Committee on Alcoholism —The Board of Directors of the National Committee for Education on Alcoholism has passed a resolution severing the tie between the committee and the Yale Plan on Alcoholism, effective Dec 31, 1949 The New Haven office of the national committee has been closed and its affairs will be directed from national headquarters at 2 East 103rd Street New York City This step was based on an amicable agreement between the two organizations, which will continue to cooperate The committee is now able to maintain an independent status and carry on its work on a national scale, utilizing the resources of various state and local organizations To facilitate the election of a widely representative board of directors, the resignations of Yale Plan representatives have been accepted, but they will be considered for reelection as individuals Mrs Marty Mann continues as executive director and Yvelin Gardner as associate director Colonel R S A Dougherty is serving as treasurer and Mrs Louis Knowlson as secretary and assistant treasurer

Equipment for Polish Campaign Against Tuberculosis —A first shipment consisting of 30 x-ray units left Rotterdam early in March for Poland, where they will be used in a national antituberculosis campaign to be carried out with the assistance of the United Nations International Children's Emergency Fund and the World Health Organization The 30 units, manufactured in the Netherlands, were part of a total of 140 that will be provided Tuberculosis is the most common disease in Poland, with an annual death rate of 50,000 and an estimated 280,000 cases of infection, WHO reported Wartime conditions of destruction combined to double Poland's tuberculosis rate, which before the war was the second highest in Europe Measures now being undertaken against tuberculosis include a mass vaccination campaign to be completed in Poland early this year The campaign has been conducted by the Joint Enterprise, composed of UNICEF, Scandinavian relief societies, health ministries and WHO, as part of a program which now covers part of Europe, Asia, Africa and the Middle East Vaccination will be continued by the Polish government after the Joint Enterprise campaign is ended In addition, roentgen examinations will be offered as part of a national prevention program

Research Funds and Fellowships in Radiology —The National Research Council announces the availability of funds for fundamental research in the field of radiology made possible by the James Picker Foundation, established in 1947 by Mr Picker and his family Capital funds of the foundation now approximate $400,000 The announced objectives of the foundation are "to provide funds to foster research and broaden the scope of radiology" In 1950 $15,000 from income will be available for research Special consideration will be given to fundamental work in radiology and its applied fields The foundation has specifically requested that none of its funds be used to subsidize the development of radiologic equipment It is expected that applications will be considered by the National Research Council's Committee on Radiology under the chairmanship of

Dr Eugene P Pendergrass, Philadelphia. Final determination of the awards will be made by the directors of the foundation on the recommendation of the council, which has been designated as the scientific advisory body of the foundation Applications for fellowships in radiologic research, with stipends of $3 000 to $5 000 depending on the qualifications and special circumstances of the applicant, will also be entertained. All applications available during the year beginning Jan 1 1951 will be entertained until September 15 and are not limited to citizens of or laboratories in the United States Inquiries should be addressed to Secretary Division of Medical Sciences National Research Council 2101 Constitution Avenue, Washington 25, D C

American Geriatrics Society—This society will hold its annual meeting June 1-3 with headquarters at the Hotel Commodore New York under the presidency of Dr Hollis E Clow, White Plains N Y The invited speakers include

Otakar J Pollak Quincy Mass Role of Lecithin in the Development and Treatment of Atherosclerosis.
Joseph L. Decourcy Cincinnati Steroid Hormones in Geriatric Practice
Grace Meads Ph D Philadelphia Application of Isotopes in Clinical Medicine
Stanford W Mulholland Philadelphia Genesis of Prostatic Enlargement.
Russell L Cecil New York Senescence in Relation to Chronic Arthritis
Howard A Rusk New York Geriatrics and Rehabilitation
Alfred Steiner New York Significance of Dietary Cholesterol in Coronary Arteriosclerosis
Henry I. Russek Staten Island N Y Evaluation of Alcohol in the Symptomatic Management of Angina Pectoris.
Lawrence H Beizer Philadelphia, Limitations of Aspiration Biopsy of the Bone Marrow and the Diagnosis of Multiple Myeloma
Emory A Rovenstine New York Nerve Blocking in Management of Peripheral Vascular Obstruction

The Saturday morning sessions will be held at the Home for the Aged, 121 W 105th St. The afternoon program will be a symposium on 'The Integration of Medical and Social Agencies in Community Planning for the Aged." The invited speakers will be Drs Martin R Steinberg Martin Cherkasky and Robert S Beckman of New York, Mrs Amy Powell Boston Mrs Helen Laye, Chicago and Paul B Maves New Brunswick, N Y At the dinner Friday at 7 30 p m Dr Willard O Thompson Chicago will speak on Endocrinology and Geriatrics" The guest of honor will be Dr John Erdmann New York. The meeting is dedicated to the memory of Dr I Leo Nascher a graduate of New York University School of Medicine in 1885 who died Dec. 25 1944 Dr Nascher was made honorary president of the society in 1942

Symposium on Chemical-Biologic Correlation.—The National Research Council will hold a two day symposium on chemical-biologic correlation in Washington on May 26-27 The meeting will include papers on the relation of structure of compounds to their biologic activities panel discussions, and a session illustrating the operations of the center Papers scheduled for the first session are The Toxicity and Parasiticidal Action of Aromatic Arsenicals in Relation to Their Structure Dr Harry Eagle National Institutes of Health Bethesda Md. and George O Doak, Ph D, University of North Carolina School of Medicine Chapel Hill, ' Structure—Activity Relationships in Plant Growth Regulators" A Geoffrey Norman Ph B, and Robert L Weintraub Ph D, Chemical Corps, Frederick, Md., and Review of Structural Requirements for Sympathomimetic Drug Action Alonzo M Lands, Ph.D, Sterling Winthrop Research Institute, Rensselaer N Y The second session will explain the work of the Chemical-Biologic Coordination Center A panel discussion on antimalarials is scheduled for the evening session of the first day Robert C Elderfield, Ph D Columbia University, New York, will be the moderator At the first session of the second day, papers will be read on Relation of Structures of Diphenyl Derivatives to Their Fungicidal Action,' James G Horsfall, Ph D, Connecticut Agricultural Experiment Station New Haven Conn, Structural Changes in Plant Insecticides as Related to Insect Toxicity," Herbert L Haller Ph D, U S Department of Agriculture, Washington D C, and Effects of Drugs on Physiologically Active Thio Systems Maxwell P Schubert, New York University College of Medicine New York At the last session of the symposium Harris L Friedman Ph D Lakeside Laboratories Milwaukee will present a paper on The Influence of Isoteric Replacements on Biological Activity ' A combined panel discussion on antimetabolites, carcinogenesis, and cancer chemotherapy will follow Murray J Shear Ph D, National Cancer Institutes Bethesda Md will be the moderator Those interested should register with the Symposium Committee Chemical-Biologic Coordination Center, National Research Council, 2101 Constitution Avenue, N W Washington 25 D C

LATIN AMERICA

Maternal and Child Health Program.—The Pan American Sanitary Bureau, Regional Office for the Americas of the World Health Organization has sent Dr Federico Gomez, regional consultant in maternal and child health, on a trip through Latin America as part of a campaign to improve maternal and child health He will gather information for a comprehensive, technical health program to reduce infant mortality Dr Gomez formerly director of the Children's Hospital in Mexico City, will visit Mexico, Gautemala, El Salvador, Honduras, Costa Rica Nicaragua, Bolivia Paraguay and Brazil, where he will review with health officials maternal and child health problems and inspect the medical and public health facilities available.

FOREIGN

University Chair of Child Health.—The University of Sidney Australia is to have its first chair of child health with Prof Lorimer H Dods as director of its course in pediatrics The instruction will include a 10 week practical course in child care at the Royal Alexandra Hospital for Children, the largest children's hospital in New South Wales The infant mortality rate of the island is said to be the lowest in the world. In 1948 it was 27 76 in 1,000 live births

Vienna Society for Psychotherapy—The General Medical Society for Psychotherapy was founded January 10 at a meeting under the chairmanship of Dr Viktor Frankl in the auditorium of the Physiologic Institute for the University of Vienna The board of directors will be comprised of Prof Otto Potzl, honorary president, Dr Viktor Frankl, president, and Dr Karl Nowotny, vice president The advisory council will be comprised of Professors Hoff and Stransky and of Holzer and Urban (Graz and Innsbruck)

Advisory Board to Hebrew University—A 16 man medical advisory board has been appointed to counsel and guide the newly established Hebrew University-Hadassah Medical School in Jerusalem on problems of curriculum, teaching personnel and research and to aid the Hadassah Medical Organization in its medical and public health work in Israel The chairman of the board will be Harry Grundfest, Ph D, associate professor of neurology Columbia University College of Physicians and Surgeons New York Serving with Dr Grundfest are Dr David Adlersberg, Mount Sinai Hospital, New York, Louis I Dublin, Ph D, Metropolitan Life Insurance Company, New York, Dr Thomas D Dublin National Health Council New York Dr Harry Eagle National Institutes of Health U S Public Health Service, Bethesda, Md, Dr Jonas S Friedenwald and Abel Wolman D E Johns Hopkins University School of Medicine Baltimore Dr Jacob J Golub Hospital for Joint Diseases, New York Drs M Ralph Kaufman, Paul Klemperer, Israel S Wechsler, Louis Leiter and David Nachmansohn and David Rittenberg, Ph D, all of Columbia University College of Physicians and Surgeons, Dr Samuel Z Levine Cornell University Medical College, New York, and Dr Charles F Wilinsky, deputy health commissioner, Boston

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Marriages

Kendall Odelle Fields Jr, Columbia, S C., to Miss Frances Mae Matthews of Moncks Corner, February 25

John M Maloney Washington D C to Miss Doris Mae Shinn of Metuchen, N J, February 21

Robert M Richman Larchmont, N Y, to Miss Jeanne A Barnett of Pleasantville February 19

Donald Hugh Ferguson, Charlottesville Va, to Miss Gloria Etta Wallnau of Richmond March 16

Sidney H Sachs Cleveland to Miss Marjorie Elaine Bell of Shaker Heights Ohio February 25

Edward J Bacsik, Trenton, N J, to Miss Catherine Repko in Villanova Pa, January 31

John Murr Rhame, Sumter S C to Miss Mary Elizabeth Tyson of Florence February 25

Richard Beddoe Nicholls to Miss Sylvia Yamalaki both of Norfolk Va, February 17

Amy S Barton to Mr Irvin Blatt, both of Moorestown N J February 17

Jerry D Silverman to Miss Phyllis Grant, both of Pittsburgh March 9

Deaths

George Henry Bunch ⊕ Columbia, S C, born in Edgefield County, S C, Nov 20, 1879, University of Michigan Department of Medicine and Surgery, Ann Arbor, 1903, past president of the South Carolina Medical Association, Columbia Medical Society and of the Tri-State Medical Association of the Carolinas and Virginia, member of the founders group of the American Board of Surgery, member of the Southern Surgical Association and Southeastern Surgical Congress, fellow of the American College of Surgeons affiliated with the Columbia, Baptist and Providence hospitals, died March 6, aged 70, of myocardial failure

Harold Levi Lawrence, Canton, Ohio, Ohio State University College of Medicine, Columbus, 1931, served during World War I, for many years associated with the U S Public Health Service as chief medical officer at the consulates and embassies in the Scandinavian countries, Germany, Austria, and Czechoslovakia and as a special consultant for health programs during World War I in 1942 appointed chief of the divisions of epidemiology and venereal disease control of the Washington State Department of Health, Seattle, chief medical officer of the Veterans Administration died in Aultman Hospital, March 12, aged 47

Robert Milton Alexander, Paoli, Okla, University of Georgia Medical Department, Augusta, 1900, member of the American Medical Association, died March 8, aged 80 of coronary thrombosis and myocarditis

Harvey Montreville Andrew, Weston, W Va, Johns Hopkins University School of Medicine, Baltimore, 1915, member of the American Medical Association, died suddenly March 10 aged 63, of heart disease

John Edward Attwood ⊕ La Crosse, Kan, College of Physicians and Surgeons Medical Department Kansas City University, Kansas City, Kan, 1901, served as county coroner and as county health officer on the staff of Hadley Memorial Hospital in Hays, died in St Luke's Hospital, Kansas City, Mo, March 5, aged 74, of carcinoma of the stomach

William Augustus Baker, Big Stone Gap, Va, Louisville (Ky) Medical College 1891, member of the American Medical Association, died February 14, aged 86

Edward Woodruff Banta ⊕ New York, Columbia University College of Physicians and Surgeons, New York, 1900, served during World War I, died in St Luke's Hospital March 12, aged 73, of bronchopneumonia

Frank Marion Barker, Monrovia, Calif, College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903, served overseas during World War I, formerly practiced in Grosse Pointe, Mich, where he was on the staff of Cottage Hospital, died February 20, aged 75, of bronchopneumonia

Isaac Barnes, Whitwell, Tenn Chattanooga (Tenn) Medical College, 1908, died in Newell Hospital, Chattanooga, February 20, aged 67, of cerebral thrombosis

William Henry Bell, Decatur, Ill, Rush Medical College, Chicago, 1893, member of the American Medical Association, past president and secretary of the Macon County Medical Society, affiliated with Decatur and Macon County Hospital and Wabash Employes' Hospital, died February 25, aged 78

Thomas Sumter Bratton ⊕ Colonel, U S Army, retired, Atlanta, Ga, Medical College of the State of South Carolina, Charleston, 1890, fellow of the American College of Surgeons, served during the Spanish-American War, Philippine Insurrection and World War I, entered the Medical Corps of the U S Army on Nov 2, 1893, retired Aug 31, 1932, died in Georgia Baptist Hospital, March 10, aged 81, of coronary sclerosis

Emmett Ezra Brown ⊕ Nashville, Tenn, Vanderbilt University School of Medicine, Nashville, 1917, also a graduate in pharmacy, served during World War I, died in Miami, Fla, recently, aged 61, of cerebral hemorrhage

James Henry Burrows ⊕ Williamsport, Pa, University of Pennsylvania School of Medicine, Philadelphia, 1920, served during World War II, affiliated with the Veterans Administration, died in the Veterans Administration Hospital in Phoenix, Ariz, March 6, aged 53

William Vare Chalmers-Francis, Los Angeles, M R C S, England and L R C P, London, 1900, served during World War I, affiliated with the Hospital of the Good Samaritan for many years, died March 4, aged 73, of coronary disease

George Walkington Colby ⊕ New York, Long Island College Hospital, Brooklyn, 1896, University of Pennsylvania Department of Medicine, Philadelphia, 1896, died in New York Hospital March 13, aged 75, of coronary thrombosis

Clifford Lawrence Dailey, Denver, St Louis University School of Medicine, 1943, member of the American Medical Association, affiliated with St Joseph's Hospital, where he died March 3, age 32, of chronic nephritis and hypertension

James Vincent De Leonardis ⊕ Newark, N J, Maryland Medical College, Baltimore, 1911, Hahnemann Medical College and Hospital of Philadelphia, 1916, served as chief medical examiner for the state athletic commission, member of the staff of St James Hospital, died March 6, aged 63, of carcinoma of the stomach

Charles Tisdale Eckerman ⊕ Muskegon, Mich, Bennett College of Eclectic Medicine and Surgery, Chicago, 1901, served as county physician, affiliated with Hackley and Mercy hospitals, died March 4, aged 74, of arteriosclerotic heart disease

Andrew Green Foord ⊕ Kerhonkson, N Y, Long Island College Hospital, Brooklyn, 1897, an Associate Fellow of the American Medical Association, for many years medical superintendent of Nonkanahwa, died March 16, aged 74, of cerebral hemorrhage

William Maurice Fresh ⊕ Hickory, N C, Medico-Chirurgical College of Philadelphia, 1906, died March 5, aged 68, of carcinoma of the prostate

George Herbert Fulton, Malden, Mass, Halifax Medical College, Halifax, N S, Canada, 1883, died February 11, aged 97

Germanus Elvery Gardner, Barberton, Ohio, Starling Medical College, Columbus, 1891, affiliated with the Citizens Hospital, where he had been a member of the board of directors, died February 28, aged 83, of cerebral thrombosis

Donald Buie Garstang ⊕ Los Angeles, Washington University School of Medicine, St Louis, 1904, member of the American Urological Association, served during World War I, formerly practiced in St Louis, where he was assistant in genitourinary surgery at his alma mater from 1914 to 1916 and on the staff of Mullanphy Hospital, on the staff of Queen of Angels Hospital, died March 5, aged 70, of coronary occlusion

Oliver Prescott Hamilton, Boise, Idaho, Northwestern University Medical School, Chicago, 1907, member of the American Medical Association, served during World War I, county physician, on the staffs of St Luke's Hospital and St Alphonsus Hospital, died March 12, aged 67, of coronary thrombosis

John Andrew Hardenbergh, St Petersburg, Fla, University of Pennsylvania Department of Medicine, Philadelphia, 1905, member of the American Medical Association, past president of Pinellas County Medical Society, served during World War I, on the staffs of St Anthony's Hospital and Mound Park Hospital, where he died March 1, aged 71, of emphysema

John Doherty Hinchman, Richmond, Va, Medical College of Virginia, Richmond, 1907, member of the American Medical Association, died February 23, aged 65, of coronary thrombosis

Harold Carlton Ingraham, New York, University and Bellevue Hospital Medical College, New York, 1914, member of the American Medical Association, life member of the New York Obstetrical Society, director of obstetrics and gynecology at Lincoln Hospital, where he was vice president of the medical board, for many years on the staff of the New Rochelle (N Y) Hospital, died in Pelham Manor February 25, aged 60, of acute coronary occlusion

William Matthews Keen, Jersey City, N J, University of the City of New York Medical Department, New York, 1891, member of the American Medical Association and the Medical Society of the State of New York, died March 5, aged 85, of arteriosclerosis

William Gottlieb Kinsley, Robesonia, Pa, Boston University School of Medicine, 1914, formerly deputy coroner, served during World War I, died in the Veterans Administration Hospital, Lebanon, February 12, aged 57, of heart disease

David Samuel Knox, Abbeville, S C, University of Georgia Medical Department, Augusta, 1900, died February 9, aged 72

William Edwin Lazell, Barre, Vt, University of Vermont College of Medicine, Burlington, 1891, served during World War I, member of the American Medical Association, for many years affiliated with Barre City Hospital, died in Putnam Memorial Hospital, Bennington, February 27, aged 82, of cerebral hemorrhage

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⊕ Indicates Fellow of the American Medical Association

Ernest John Lessenger ⊕ New London, Iowa Drake University College of Medicine Des Moines 1913, formerly vice president of the Mississippi Valley Medical Society, died in Rochester, Minn March 8, aged 63

Floyd D Lewis, Concord Calif Willamette University Medical Department Salem Ore 1909 member of the American Medical Association, died in February aged 64

Roy Christian Lintner ⊕ Ludington Mich, Rush Medical College, Chicago 1924, chairman of the Paulina Stearns Hospital staff formerly physician at the state reformatory at Ionia died March 12 aged 56, of heart disease.

Harry R Lovellette, Keensburg Ill Hospital College of Medicine Louisville Ky 1893 member of the American Medical Association died February 28 aged 80

Burr W Macfarland, Trenton N J Jefferson Medical College of Philadelphia 1888, member of the American Medical Association died February 23 aged 82 of cerebral hemorrhage and fracture of the neck of the femur due to a fall

William Seagrove Magill, Berlin N Y Université de Paris Faculte de Medecine France 1894, died in the New Jersey State Hospital Trenton February 27 aged 83 of traumatic shock, and fracture of the left femur due to a fall

Otto Maier ⊕ New York Bellevue Hospital Medical College New York 1891 also a graduate in pharmacy, fellow of the American College of Physicians died in Lenox Hill Hospital March 9 aged 84

Frederic Grantham Meynen ⊕ Garden City N Y Columbia University College of Physicians and Surgeons New York, 1922 fellow of the American College of Surgeons served on the faculty of New York University College of Medicine consulting surgeon at the Queens General and Mary Immaculate hospitals in Jamaica died March 3 aged 51 of coronary thrombosis

Roy Benson Miller ⊕ Parkersburg W Va Medical College of Virginia Richmond 1903 honorary life member and past president of the West Virginia State Medical Association and the Parkersburg Academy of Medicine fellow of the American College of Surgeons served as chief of staff at the Camden Clark Memorial Hospital, for many years surgeon for the Baltimore and Ohio Railroad died March 18 aged 72 of cerebral hemorrhage and diabetes mellitus

Clarence Wilbur Milligan, Springfield Ill, St. Louis University School of Medicine 1908 member of the American Medical Association formerly health officer of Springfield, served as trustee and president of the Springfield park board for many years president of the Illinois Association of Park Districts died in St John's Hospital February 17 aged 64

Roy Melloy Montfort, Danville Ill, Bennett Medical College, Chicago 1915 also a graduate in pharmacy member of the American Medical Association served during World War I affiliated with Lake View Hospital where he died February 21 aged 60 of cerebral hemorrhage cirrhosis of the liver, diabetes mellitus and pneumonia

Sidney P Mosher, Sioux City Iowa Physio-Medical College of Indiana Indianapolis 1886 died March 1, aged 88

Hugh Kingsbury Murphy Mulberry Fla. Hospital College of Medicine Louisville, 1902 past president of the Polk County Medical Society served as mayor and on the city council for many years, a member of the school board died March 1, aged 75

David Nathan ⊕ Norristown Pa McGill University Faculty of Medicine Montreal, Canada 1906 specialist certified by the American Board of Psychiatry and Neurology, member of the American Psychiatric Association Association for Research in Nervous and Mental Disease and the International League Against Epilepsy, affiliated with Pottstown (Pa), Montgomery and Sacred Heart hospitals, died February 26 aged 72

Newman J Neill, Lebanon Junction, Ky Chicago College of Medicine and Surgery 1909 member of the American Medicall Association and of the American Association of Industrial Physicians and Surgeons served with the U S Public Health Service during World War I and was medical director of the Kentucky Ordnance Works during World War II, died February 10 aged 68

James Vincent Nespeco, Bridgeport Conn. Georgetown University School of Medicine Washington D C 1932 member of the American Medical Association a member of the medical staff of St Vincent s Hospital died March 1 aged 43 of coronary thrombosis

Robert Cronley Noble Midland Texas University of Vermont College of Medicine Burlington 1930 certified by the National Board of Medical Examiners member of the American Medical Association formerly practiced in Northampton, Mass, where he was city physician for one term and was on the staff of the Cooley Dickinson Hospital, died February 18 aged 44

Oliver U O'Neill, Ironton, Ohio University of Louisville (Ky) Medical Department 1897 member of the American Medical Association served as coroner of Lawrence County and health commissioner in Ironton formerly affiliated with the Charles S Gray Deaconess Hospital, died February 24 aged 79 of influenza and arteriosclerosis

John Atkins Payne, East Setauket, N Y, New York Homeopathic Medical College and Hospital, New York 1902, served during World War I, died March 10 aged 74

Henry Woodfin Phillips, Norfolk, Va. University College of Medicine, Richmond 1897 member of the American Medical Association recently awarded a certificate of merit by the Medical Society of Virginia for having practiced medicine for more than 50 years died February 21, aged 74

Oliver Henry Pinney ⊕ Captain U S Army, retired, Lexington, Ky Medical College of Ohio Cincinnati 1903, formerly a medical missionary in West Africa served during World War I, entered the medical corps of the U S Army as a captain in 1920 retired Oct 19 1925 for disability in line of duty, from 1927 to 1937 on the staff of the student health service at the University of Kentucky, died March 9, aged 71, of arteriosclerotic heart disease and hypertension.

Joseph Clegg Ross, Chicago, Bennett Medical College, Chicago 1915 member of the American Medical Association, formerly alderman of the 40th ward and member of the Illinois liquor control commission died March 26, aged 58, of arteriosclerotic heart disease and hypertension

Herman Louis Sarvela, Hancock, Mich, University of Illinois College of Medicine, Chicago 1912, member of the American Medical Association president of the Houghton-Keweenaw-Baraga Counties Medical Society, served on the board of education affiliated with St Joseph's Hospital, died in Duluth, Minn, February 15, aged 66 of carcinoma of the pancreas

Maurice R Schwartz, Fall River Mass, Jefferson Medical College of Philadelphia 1907, member of the American Medical Association died February 19, aged 67

James S Tankersley, Ellijay Ga Atlanta Medical College, 1884, member of the American Medical Association, for many years physician for the Louisville and Nashville Railroad, died in a hospital at Canton February 11 aged 90

Edward Taylor, New York, George Washington University School of Medicine, Washington D C, 1908, for many years medical inspector in the Garden City (N Y) public school system, at one time professor of tropical diseases at the University of Vermont College of Medicine, Burlington, died February 18, aged 65

Joseph Turner Thomas Jr, Detroit, Meharry Medical College, Nashville, Tenn 1929, affiliated with Bethesda and Edyth K Thomas Memorial hospitals was shot and killed February 25, aged 48

William Dallas Walker ⊕ Ashley Ill St. Louis University School of Medicine 1937 served during World War II affiliated with the Good Samaritan Hospital in Mount Vernon and St. Mary's Hospital in Centralia instantly killed in an automobile accident February 22 aged 37

Arthur Leo Weber ⊕ Upland, Calif Northwestern University Medical School, Chicago, 1910 fellow of the American College of Surgeons member of the American Association of Industrial Physicians and Surgeons member and past president of the staff of San Antonio Community Hospital, died March 8, aged 66 of coronary occlusion

Ralph H Wheeler ⊕ Chicago, Bennett College of Eclectic Medicine and Surgery, Chicago 1889, an Associate Fellow of the American Medical Association affiliated with Alexian Brothers' Hospital, died in Winona, Minn March 10, aged 86 of cerebral hemorrhage

Luvia Margaret Willard ⊕ Jamaica N Y Cornell University Medical College New York, 1900 specialist certified by the American Board of Pediatrics, member of the American Academy of Pediatrics fellow of the American College of Physicians formerly affiliated with the Jamaica Hospital died in Mount Vernon (N Y) Hospital March 8, aged 68, of arteriosclerotic heart disease

Frank J Zuehlke, Chicago, Bennett Medical College, 1910, died March 14, aged 63 of cerebral hemorrhage and hypertension

Foreign Letters

PARIS

(From a Regular Correspondent)

March 1, 1950

Streptomycin Therapy During Pregnancy

The treatment of tuberculosis in the pregnant woman with streptomycin gave rise to a debate at one of the last meetings of the National Academy of Medicine, after a report by Prof. Et. Bernard, B. Kreis and their associates. These authors treated 14 tuberculous women, 6 of whom were tuberculous before pregnancy and 8 who were found to be tuberculous in the course of pregnancy. Streptomycin was used in 3 cases before the fourth month of pregnancy and in 11 between the fourth and seventh months. Three patients were given dihydrostreptomycin and the others streptomycin. The daily dose was 1 Gm. in 4 cases, 1.50 Gm. in 8 and 2 Gm. in 2, the total dose varied from 20 to 180 Gm. In 4 cases of miliary or nodular tuberculosis streptomycin was the sole therapeutic agent. In 5 cases collapse therapy had preceded pregnancy, and in 5 patients streptomycin therapy had preceded the pneumothorax. In 13 patients the delivery was normal. One woman was prematurely confined by 15 days. In an advanced case a spontaneous abortion (fifth month) occurred four days after the beginning of streptomycin therapy, three months later she died. None of the 13 other patients experienced an evolutive outbreak immediately or early after delivery, 2 of them became pregnant again without untoward incident. The tolerance to streptomycin was good. As regards the 13 children, 11 have developed normally, with no pathologic observations in the auditory system, 1 died within a month from mastoiditis, and the premature baby died within 48 hours after delivery. Et. Bernard and his associates think that these results prove that streptomycin is not toxic for the fetus. With the collaboration of Mrs. Grumbach of the Pasteur Institute, they have studied the transplacental passage of the antibiotic in 12 women who were given, in the course of labor, 0.50 Gm. of dihydrostreptomycin. The examination of the blood of the umbilical cord, taken immediately after delivery, revealed the constant presence of the antibiotic. The average rate observed between 43 and 130 minutes after the injection amounted to 5.7 units, results agreeing with those of Levin, Carr and Heilmann. Et. Bernard and his associates believe that this placental barrier indicates the harmlessness of streptomycin for the fetus. Professor Moulonguet has some reservations regarding the children's future and recalled the recent report before the Society of Oto-rhinolaryngology of a case of deafness following treatment of a child in this manner. He thinks that, on account of the difficulty of making an acoumetric examination in young children, one cannot immediately state definitely that streptomycin therapy during pregnancy is harmless. For this reason, Et. Bernard proposes avoiding administration of dihydrostreptomycin to pregnant women, reserving the streptomycin treatment for conditions with precise indications.

Mortality from Cancer in France

P. Denoix and L. Mausol of the Cancer Section of the National Institute of Hygiene studied the mortality from cancer in 1948. Sixteen per cent of the deaths were declared to be due to cancer, this disease caused the death of 165 persons per 100,000 inhabitants as against 137 in 1936. The increase of the cancer mortality rate is related to the increase of average life and also to the greater accuracy of diagnosis. In 1930 tuberculosis killed more persons than cancer, in 1948 the latter occurred twice as frequently. It kills relatively more men than women, though the number of deaths for men (32,939 declared and 35,480 probable) is below that for women (34,766 declared and 37,485 probable). In 100 deaths from cancer there are 48 men and 52 women, compared with the general mortality, 17.1 per cent of the deaths are from cancer for women and 14.1 per cent for men. These figures are related to the total population and general mortality, if these factors are eliminated, it appears that of 100,000 men 177 die of cancer and of 100,000 women 156 die of cancer. If these figures are compared with the corresponding ones for 1930 (127 for men and 147 for women), an inversion unfavorable to men, occurring in 1944-1945 is noted. A higher mortality for women has remained for only the age group 30-44 years. Cancer kills especially aged persons in an increasing proportion, in 1936, of 100,000 deaths from cancer 5.3 were in the 30-44 year age group and 44.8 in the 65-79 age group. In 1948 the rate in the former group was 4.3 and the latter 47.1. The authors have also studied the average age at death according to the site. For cancer in all locations the age was 64 years and 2 months, for cancer of the nervous system, 51 years, of the female genital organs, 59 years and 6 months, of the respiratory system, 60 years and 6 months, of connective and endocrine tissue, 61 years, of the buccal cavity and pharynx, 62 years, of the breast, 62 years and 6 months, of the digestive system, 66 years, of the skin, 69 years, and of male genital organs, 69½ years. The authors noted that cancer in a given site (nervous system, buccal cavity, pharynx, skin) causes death earlier in men than in women.

ITALY

(From a Regular Correspondent)

FLORENCE, Feb. 27, 1950

Therapy of Bronchial Asthma

Dr. D'Asaro reported to the medicosurgical association of the Romagna on a new method he has used successfully for checking rapidly an attack of bronchial asthma. The method consists of pushing up slightly with one or both hands the abdominal viscera. The hands may be placed at any level of the abdomen, on one side or both sides simultaneously (e. g., at the level of the two costal arches between the prolongation of the parasternal and midclavicular lines, or at the lower abdomen), in dorsolateral recumbent, in standing or in sitting position. After some minutes, sometimes after only a few seconds, the patient feels relieved and the breathing becomes easy, while the sibilant rales and ronchi, which at the onset were heard diffusely on auscultation over the whole respiratory region, are no longer noticed. The method can be taught to the patient, who can execute it himself at the start of the attack, when he first has a sense of constriction of the thorax and abdominal swelling, and consequently may succeed in checking the attack in its initial stage.

The method may be employed easily and comfortably and is definitely effective in all forms of bronchial asthma, in the predominantly vagal as well as in the lymphatic type. The use of any drug employed at present for controlling the asthmatic attack, either at the peripheral or central point, becomes dispensable. This method does not cure asthma, it should be repeated, therefore, at the onset of each attack. After a few days of treatment, longer intervals between attacks are observed, owing partly to the psychic tranquility resulting from the patient's having a method at hand to control the attack and partly to the restoration of a certain neurovegetative equilibrium following the frequent inhibition of the bronchoconstrictor peripheral mechanism.

Death of Prof. Amedeo Herlitzka

Prof. Amedeo Herlitzka, who taught physiology at the University of Turin, died. While still a student working in Prof. Giulio Fano's laboratory, he started the physiologic investigation on ontogenic development. He succeeded in obtaining, for the first time, full living embryos of every one of the two first blastomeres which were isolated with a fine technic from the egg of Triton At the Institute of the famous Prof Luciani in Rome he studied the differentiation of the intestinal cells during the development of the embryo subjecting to severe criticism the doctrine on the development of the embryo then in vogue Afterward he entered the physiology laboratory of Prof Angelo Mosso in Turin, where for 50 years he was active as a physiologist and a teacher He was one of the first Italian promoters of physiological chemistry as fundamental in the study of medicine

After the death of Professor Mosso Professor Herlitzka succeeded to the chair of physiology at the University of Turin from which he retired last year on reaching the age limit

Numerous publications and scientific papers reveal the intellectual versatility of this great investigator He was a pioneer in the field of experimental embryology His studies on the organic colloids were very important In the field of applied physiology, Professor Herlitzka studied the importance of the physiologic selection of apprentice pilots at a time (1916) when the study of the organic functions of flyers had hardly begun The result of his studies were reported in the volume Physiology and Aviation' which is one of the first monographs on the subject Of importance also is his research on human work and fatigue published in "Physical Evaluation of Athletes and in his treatise 'Physiology of Human Work first published in Spanish and then in Italian (1948)

TURKEY

(From a Regular Correspondent)

ANKARA Feb 10 1950

Brucellosis in Turkey

At the International Congress of Comparative Pathology held in Istanbul in May 1949 Said Bilal Golem D V M of the Ankara Refik Saydam Institute of Hygiene reported on brucellosis The first case, confirmed by laboratory test was diagnosed in 1915 by Prof Dr Hussameddin Kural and Dr Mahmoud Sabit Akalin at the Bosphorus-Kuleli Military Hospital in Istanbul During the battle of the Dardanelles (Gallipoli 1915) a veterinary became seriously ill after drinking raw goat's milk the laboratory test at the hospital in Istanbul revealed the presence of brucella Further investigations at other Istanbul hospitals confirmed that soldiers from the Gallipoli front also suffered from brucellosis In 1917 2 cases of brucellosis occurred in Eskişehir and in 1931 2 cases at Prof Dr Abdulkadir Noyan s clinic at the Gulhane Hospital in Istanbul The first cases of human and animal brucellosis in Ankara were discovered by Gen Sureyya Aygun professor of veterinary medicine In the same year a doctor of veterinary medicine discovered and confirmed by laboratory test Bang s disease in the cattle at the Yalova Karacabey and Baltaci state farms and at the government farm and resorted to vaccination Reports from Ankara Izmir Istanbul Diyarbekir and other towns indicated that brucellosis was on the increase According to the 1930-1949 statistics of the Ministry of Health there have been 209 cases resulting in 7 deaths in 67 per cent the disease occurred in summer and autumn It is believed that many cases are not reported or are not rightly diagnosed The death rate was 3 3 per cent Of the 209 patients 140 (71 3 per cent) were men and 60 (28 7 per cent) women The ages ranged from 2 to 76 years in male patients and 8 to 51 years in female patients Of 13 patients in Ankara 4 were microbiologists, 4 were veterinarians 3 were slaughterhouse butchers, 1 was a cowboy and 1 a physician

The 178 agglutination tests by Dr Necmeddin Akyay at the Central Institute of Hygiene revealed positive reactions in 118 farmers, 25 workmen, 19 soldiers, 8 children, 5 women and 3 civil servants The 4 bacteriologists contracted the disease at the laboratory, the 4 veterinarians through contact with animals and the physician by taking blood from a patient In the cattle that infected the cowboy, both Brucella melitensis and Brucella abortus were present Of the twenty two types of bacilli recovered from the patients only one proved to be Brucella abortus These cultures were sent to the Michigan State College School of Veterinary Medicine Brucella Research Center and confirmed by Prof Forest Huddleson Investigation revealed that the patient from whom Brucella abortus was recovered was an immigrant.

The animals in Turkey that harbor brucella organisms are goats, sheep, cattle and buffalos Formerly table butter used to be made from yoghurt, now the raw milk is made into butter by churning Turkish people never drink unboiled milk even the milk that comes from the three pasteurization plants of the principal cities is boiled Half of the country s milk produce is consumed as yoghurt which is made from boiled milk to which a leaven is added Yoghurt is consumed in almost every household all the year round

That the agglutination tests revealed the presence of Brucella melitensis in the blood of the veterinary on the cattle-breeding ranch and also in the cattle of the ranch is evidence that this organism is responsible for both human and animal brucellosis In forty-nine of Turkey s sixty-three provinces the presence of human brucellosis has been ascertained and organisms were recovered from animals in the remaining fourteen provinces the situation could not be determined because of insufficient facilities The discovery of animal brucellosis on cattle-breeding ranches and on the government farm has led to the strict enforcement of precautionary measures

Milk cream butter and white cheese are responsible for human brucellosis in urban communities A truck driver taking the milk from the farms to a dairy in Ankara frequently sampled the raw milk and in consequence became seriously ill with brucellosis A high official and his wife ascribed their illness to table butter

Up to 1942 the late Dr Osman Serefeddin Çelik of Istanbul found 278 (7 9 per cent) positive brucella agglutination reactions in the 3 511 serum samples that had come to his laboratory for the Wassermann test. Investigation of 1 104 serums at the Ankara Refik Saydam Institute of Hygiene revealed that of 555 drafted young men of healthy appearance 24 (4 3 per cent) had positive brucella agglutination reactions 16 at a titer of 1 20 3 at 1 40, 1 at 1 80 2 at 1 160 and 2 at 1 320 the 549 serums for the Wassermann test of 298 men and 251 women revealed a brucella-positive reaction in the blood of 43 (7 6 per cent), 31 at a titer of 1 20 6 at 1 40 4 at 1 80, 1 at 1 160 and 1 at 1 320 Dr Necmeddin Akyay of the same institute investigated the blood of 1 250 persons 672 men and 578 women, and found positive brucella agglutination reactions in 180 (14 4 per cent), 77 at a titer of 1 50 65 at 1 100, 27 at 1 200, 6 at 1 400 and 5 at 1 800 Results are different because Dr Bilal Golem used Stableforth's standard agglutination method by which the results are read with the unaided eye Dr Akyay worked with antigen diluted at least three times and *the results were read with the agglutinoscope*

Brucella coagglutination in human beings elicited positive reactions at titers of 1 20 to 1 160 when combined with tularemia at titers of 1 160 to 1 320 brucella coagglutination in horses mules and donkeys was positive at titers of 1 20 to 1 320, when combined with tularemia at titers of 1 10 to 1 80 in cattle, buffalos and goats brucella coagglutination elicited titers of 1 20 to 1 320 and combined with tularemia titers of 1 10 to 1 80

These experiments revealed that in a combination of brucella and tularemia some serums give a positive reaction of the same titer Wesley Eisele Norman B MacCullough Grace A

Beal and William Rottschaffer observed that in persons vaccinated against cholera, brucella nonspecific agglutination results, which is confirmed by these experiences

Hitherto melitin and abortin were used for control in brucella allergy, but the Refik Saydam Institute of Hygiene has recently prepared a nonspecific antigen which is now being used The preparation is as follows The dried brucella organisms are crushed and together with protein are dissolved in saline solution and, according to the nitrogen content, are standardized on infected animals, the product is of the same type as Forest Huddleson's brucellergen and has been forwarded to all the larger Turkish laboratories Brucella organisms have been treated with chloroacetic acid according to the method used by A Boivin and L Mesrobeanu to produce a glucidolipic complete antigen Specialists have used it for the treatment of brucellosis and have obtained good results, 9 of the 10 patients treated by Dr Sabahaddin Payzin completely recovered

Death of Dr Celal Cansun

Dr Celal Cansun, microbiologist at the Refik Saydam Institute of Hygiene, Ankara, died in November 1949, aged 38, of tumor of the brain, in the United States, where he had been sent for treatment As chief and bacteriologist of the Elaziz Leprosarium Dr Cansun experimented with prophylaxis, intensive therapy and direct transmission of cutaneous leishmaniasis by vaccinating himself with material from lesions on the leg and hand of a member of the household His book on leprosy was published shortly before his death Dr Cansun was director of the antigen department of the Institute and was noted for his work on diphtheria toxin

SWITZERLAND

(From a Regular Correspondent)

GENEVA, Feb 20 1950

Meeting of Executive Board of WHO

The Fifth Session of the Executive Board of the World Health Organization was held in Geneva Jan 16-Feb 2, 1950, under the chairmanship of Sir Arcot Mudaliar, vice-chancellor, University of Madras The Executive Board approved the building plan for a permanent place of WHO in Geneva, for which the Swiss Government has promised a contribution of $750,000

The question of the resignation of URSS, Ukrainen, Bielorussia and Bulgaria was forwarded to next general assembly The finances of WHO were discussed, 18 per cent of the 1948 budget and 27 per cent of the 1949 budget, representing $870,000 are still not paid

The board considered in detail the proposed program for 1951 It decided to stimulate demonstrations for control of rabies in Egypt and Israel A new serum prepared with viruses cultivated on embryonated eggs, gives the dog a stronger and longer immunity than all other serums used till now Concerning the control of malaria, the members of the board mentioned the results which were obtained with new methods using dichlorodiphenyltrichloroethane (DDT), particularly in Brazil, the percentage of disease has decreased

After emphasizing the importance of infant aid (in collaboration with United Nations International Children's Emergency Fund, UNICEF), of nutrition problems and of schistosomiasis (which, universally, affects 114 million persons), the board recognized the report on the BCG campaign in Europe By the end of 1949, about 18 million persons had been examined, 7,540,000 persons showed positive reactions and 8,436,000 had been vaccinated

The specialists in psychiatry insisted on the incorporation of mental health in the WHO activity in the realm of public health They called attention to the fact that this point has been too much neglected by the ministries of public health of most countries

Many campaigns for the control of venereal diseases are made now in different countries It has been decided to set up an international regulation of health in order to control venereal diseases An international meeting for the serologic diagnosis will probably be organized in 1952

After having approved the proposed budget of $360,000 for the program of WHO in 1951, the board especially recommended that the organization deal first with developing public health services in all countries and with extending the personal health education The Third World Health Assembly will be held in Geneva in June 1950

SWEDEN

(From a Regular Correspondent)

BODEN, March 12, 1950

An Experiment in Health Control

In Stockholm Dr Sture Österlind has started an experiment in health control He makes an examination of about 1,000 persons twice a year His material consists of 300 employees in a clothing establishment, whose examination is with the permission of the employer, and of 700 other interested persons, willing to pay 30 Swedish crowns for the examination Dr Österlind makes an examination of the same type that is used by the life insurance companies, but he includes a fluororoentgenogram of the lungs, gynecologic examination and proctoscopy A red blood cell count, blood smear and sedimentation test are made The urine is tested on protein and reducing substance and examined microscopically Dr Österlind also makes a polarographic examination of the blood serum by a special method, which he says has proved satisfactory

The examination rather closely follows the scheme used in the Strang Clinic in New York and the results are similar Dr Österlind thus found that 60 persons out of 100 had some defect in need of treatment (e g, diabetes peptic ulcer) Cancer was found in 2 2 per cent

Importation of Austrian Physicians

A Swedish state delegation recently visited Austria to study medical education there The delegation found that there existed in Austria an excess of physicians Austria has about 12,000 physicians and Sweden only 4,500 for nearly the same population According to the delegation a restricted number could be transferred to Sweden after careful examination

The publishing of the report has aroused discussion The Swedish Medical Association (Sveriges Läkarforbund), representing about 4,300 Swedish physicians, believes the need of importation is not clearly demonstrated The actual difficulties in Swedish medical care do not depend on scarcity of physicians exclusively but also on scarcity of other categories of personnel The association points out the need of a careful and continuous supervision of the resources of personnel available for medical care

The Association of Swedish Junior Physicians (Sveriges Yngre Lakares Forening, "SYLF") representing the majority of subordinate hospital physicians, has also stressed the need of a careful examination if a shortage of physicians really exists in Sweden SYLF believes that in many places there is an excess of physicians, which could be mobilized for such districts that have need of a doctor The lack of physicians in psychiatric wards can be counteracted by an amelioration of the employment conditions in this department of hospital care SYLF also wants a restriction of voluntary service in the university clinics A large number of young doctors prefer a voluntary unpaid service in such clinics before going to a paid service in the country where their service is wanted

The state medical board, under the leadership of Axel J Hojer, the originator of the importation plan, has recommended that 100 Austrian physicians be brought over in the first group

DENMARK

(From a Regular Correspondent)

Copenhagen Feb 25 1950

Periodic Health Examinations

In 1944 the Hygiene Committee of the Danish Medical Association issued a memorandum on periodic health examinations In 1945 contacts were made with various persons and bodies with reference to the realization of such a scheme and it was decided that it should be extended tentatively to some 5 000 persons of both sexes over the age of 40 They were to be examined by their own doctors on two occasions with an interval of a year between The examinations were to consist of recording previous illnesses making an ordinary clinical examination (including exploration of the rectum and a gynecologic examination) determination of the hemoglobin percentage Wassermann test and a search for signs of tuberculosis

When this scheme was put into practice, the 5,000 figure was reduced to 2 814 and among the 414 doctors taking part, there were 86 who examined only 1 patient each and 327 who did not examine more than 10 patients each The Wassermann testing was also not as complete as planned In spite of such shortcomings, some interesting information emerged from this experiment in preventive medicine. For example it was found that the frequency of deafness among men was four times as great among factory workers as among office workers and teachers and it would seem that about three quarters of the cases of deafness among factory workers could be traced to industrial noises

An editorial published on this subject in a recent number of the *Journal of the Danish Medical Association* discusses the wider implications of this scheme the results of which Dr Erik Trier has analyzed It is admitted that there are not enough doctors in Denmark to examine a million and a half adults over the age of 40 every year There is also the enormous cost to be considered But it is urged, such a scheme is well worth while Fortunately, there are the useful experiences of Dublin Fisk and Kopf in the United States and the findings of L D Bristol (Value of Health Examinations in Industry, J A M A 128 627 [June 30] 1945) to serve as a guide

Hepatitis Among Syphilitic Patients

Only a few years ago the development of hepatitis in cases of syphilis treated with arsphenamine was regarded as indicating arsphenamine poisoning of the liver or the outcome of diminished resistance to infection with epidemic hepatitis In 1943 it was suggested by MacCallum that hepatitis develops in syphilitic patients treated with arsphenamine because ineffectively sterilized needles convey infection from one patient to another In 1945 Iversen a Dane, drew attention to the importance of hospital infections in such cases but at that time administrative difficulties prevented radical improvements in the aseptic technic of intravenous injections In 1948 P V Marcussen also of Denmark showed that in a Danish clinic for venereal diseases during the period 1939-1947, hepatitis developed in 6 to 7 per cent of the syphilitic patients treated with arsphenamine At least 4 per cent of these cases represented inoculation hepatitis in his opinion which he substantiated by comparing the dates of intravenous injections with the dates of the appearance of hepatitis

In the *Journal of the Danish Medical Association* Feb 9 1950 Marcussen has published some striking figures From Jan 1 1948 the technic of arsphenamine injections was improved He describes in detail the technic employed at his clinic before this date and then gives an account of the numerous precautions which have since then been taken to assure aseptic technic During the 17 months following this reform there has been only one instance of jaundice among the syphilitic patients treated in his clinic, and this case could be explained as the outcome of obstruction of the bile passages by gallstones There was a slight fall in the incidence of epidemic hepatitis in Copenhagen during the same period, but the number of syphilitic patients treated in the clinic was approximately the same as the number treated before 1948, and Marcussen feels justified in claiming that the immunity to hepatitis recently observed among his syphilitic patients can be traced to scrupulous attention to asepsis throughout every step of intravenous injections

ARGENTINA

(From a Regular Correspondent)

Buenos Aires March 29 1950

Outbreak of Yellow Fever in Bolivia

Last February cases of yellow fever were found in the south of the Republic of Bolivia (in Sucre and Cochabamba) This epidemic was due to an epizootic of monkeys spread to southern zones normally undamaged The total number of cases is 800 half of which have been fatal The government of Bolivia, the Pan American Sanitary Bureau and the Rockefeller Foundation organized an extensive vaccination campaign The vaccines were sent by the government of Brazil In the Argentine regions near Bolivia, vaccination has been extensively practiced and the Stegomyia index of the cities is being carefully observed

Suppression of Internship

In Argentina basic teaching was given in the Faculty of Medicine for three years and clinical training was acquired during daily visits for four years to services in the numerous hospitals of the city of Buenos Aires During the last century and the first 25 years of this century the principal basis of professional medical training was the internship Medical students became interns in the last two years of their career and attended hospital services, changing every three or nine months They were under the direction of the ward chief and his "chef de clinique' The interns prepared the clinical history of each case helped in surgical interventions visited the patients in the evening and assisted emergency cases in and out of the hospital They had a salary and lived permanently in the hospital

This system was becoming less efficient for several reasons 1 A great number of capable and specialized physicians began to occupy positions of responsibility in the wards and therefore the responsibility of the undergraduates decreased 2 Examinations in the medical school which took place only once a year became much more frequent (almost monthly in the last two years of the career), the students had to attend daily lectures and therefore they had to discontinue their hospital training 3 For various reasons discipline became gradually less strict and the admission of students in hospitals sometimes was made on a racial basis or in accordance with political affiliations

Because of this, the "Sociedad de Beneficencia hospitals discontinued internship many years ago, and soon thereafter municipal hospitals did the same after a disturbance in one of them in which a student was killed Only in the Hospital de Clinicas (Hospital of Clinics of the Faculty of Medicine) is internship still continued, but these positions are granted only to 10 or 12 of the best students in each course Internship continues also in some private institutions, such as the Spanish, Italian and French hospitals On the request of a great number of students and in accordance with the favorable opinion of many professors internship was reestablished in the Durand hospital, but it was discontinued again last February because it was not successful

International Congress of Surgery

The annual congress of the International College of Surgeons will be held in Buenos Aires early in August 1950 The government will supply funds for the congress Almost 700 surgeons from all American countries have been invited, and it is reported that about 90 surgeons from the United States will arrive in two Panamerican World Airways planes

Visitors

Professor Clarence Crafoord, the eminent Swedish surgeon, has come to Argentina on invitation from the Ministry of Public Health of the Buenos Aires Province to work on cardiovascular surgery He came with an anesthetist, a cardiologist who has specialized in angiocardiography and heart catheterization and a specially trained nurse A special surgical service was installed in the Institute of Phthisiology of La Plata (Province of Buenos Aires), where professor Crafoord demonstrated his technics and delivered lectures He then came to Buenos Aires by invitation of the National Ministry of Public Health He operated and gave lectures in the "Hospital Nacional Central," where the chair of thoracic surgery of the Faculty of Medicine is located

Death of Dr Fitte

Dr Marcelo Fitte died recently in Buenos Aires He was an orthopedist and had established a foundation for research in poliomyelitis

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners *Parts I and II* Various locations June 19 21 Final date for accepting applications is May 19 *Part III* Twenty nine centers June 6 29 Registration closes on May 6 Exec Sec Mr E S Elwood, 225 S 15th Street, Philadelphia

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology *Written* Various locations July 21 *Oral* Chicago Oct 8 11 Sec Dr Curtiss B Hickcox 745 Fifth Ave New York 22

American Board of Internal Medicine *Oral* San Francisco, June 21 23 The oral examinations in the subspecialties will be held at the same time and places *Written* Oct 16 Final date for acceptance of applications is May 1 Asst Sec Dr William A Werrell 1 West Main Street Madison 3, Wis

American Board of Neurological Surgery *Oral* Chicago June 3 Applications no longer accepted Chicago Oct 1950 Final date for filing applications is April 30 Sec, Dr W J German 789 Howard Ave New Haven Conn

American Board of Obstetrics and Gynecology Inc *Oral Part II* Atlantic City May *21 27* Sec, Dr Paul Titus *1015* Highland Bldg Pittsburgh

American Board of Orthopaedic Surgery *Part I* Denver May 5 6 Sec, Dr Harold A Sofield 122 S Michigan Ave Chicago

American Board of Ophthalmology *Written* Various Centers January 1951 Final date for filing applications is July 1 1950 *Practical* Boston May 22 26 Chicago Oct. 2 6, West Coast Jan 1951 Sec Dr Edwin B Dunphy 56 Ivie Road Cape Cottage Maine.

American Board of Otolaryngology *Oral* San Francisco May Chicago October Sec, Dr Dean M Lierle University Hospital Iowa City

American Board of Pediatrics Cincinnati May 5 7 San Francisco, June 30 July 2 Exec Sec Dr John McK Mitchell 6 Cushman Road Rosemont, Pa

American Board of Physical Medicine and Rehabilitation *Oral and Written* Boston Aug 26-27 Final date for filing applications is April 1 Sec Dr Robert L Bennett, 30 N Michigan Ave, Chicago

Amedican Board of Plastic Surgery *Oral* May June Sec Dr Louis T Byars 4647 Pershing Avenue St Louis, Mo

American Board of Preventive Medicine and Public Health *Written* Portland, Ore May 28 *Oral* Portland Ore, May 29 Sec Dr E I Stebbins, 615 N Wolfe St Baltimore 5 Md

American Board of Proctology *Part I* San Francisco Dallas Minneapolis and Philadelphia May 13 Sec Gen Dr Louis A Buie 102 110 Second Ave S W, Rochester Minn

American Board of Psychiatry and Neurology San Francisco June 23 24 Applications no longer accepted Next examination December 1950 Final date for filing applications is Sept 1

American Board of Radiology *Oral* Chicago, week of June 18 Sec, Dr B R Kirklin, 102 '10 Second Ave, S W Rochester Minn

American Board of Surgery *Written* Various centers, Oct. 25 Final date for filing applications is July 1 Sec Dr J Stewart Rodman 225 South 15th Street, Philadelphia

American Board of Urology Chicago Feb 10 14, 1951 Final date for filing applications is Sept 1, 1950 Sec, Dr Harry Culver, 7935 Sunnyside Road Minneapolis 21

BOARDS OF MEDICAL EXAMINERS

Alabama *Examination* Montgomery, June 27 29 Sec Dr D G Gill 519 Dexter Avenue Montgomery

Arkansas * *Examination* Little Rock June 8 9 Sec. Dr Joe Verser Harrisburg Homeopathic. Little Rock, June and November Sec Dr Carl S Bungart, 105 N 14th St Fort Smith *Eclectic* Little Rock June 8 9 Sec, Dr Clarence H Young, 1415 Main Street Little Rock.

California *Examination, Written* San Francisco, June 19 22, Los Angeles, Aug 21 24, Sacramento Oct. 16 19 *Examination, Oral and Clinical for Foreign Medical School Graduates* San Francisco June 18, Los Angeles, Aug 20, San Francisco, Nov 12 *Reciprocity, Oral Examination* San Francisco, June 17, Los Angeles, Aug 19, San Francisco Nov 11 Sec, Dr Frederick N Scatena, 1020 N Street, Sacramento 14

Connecticut * *Examination* Hartford July 11 12 Sec to the Board, Dr Creighton Barker 160 St Ronan St, New Haven *Homeopathic* Derby July 11 12 Sec Dr Donald A Davis 38 Elizabeth St Derby

Delaware *Examination* Dover, July 11 13 *Reciprocity* Dover July 20 Sec, Dr J S McDaniel 229 S State St, Dover

District of Columbia *Examination* Washington, May 8 9 Sec Dr Daniel L Seckinger, 4130 E Municipal Bldg Washington 1

Florida * Jacksonville, June 25 27 Sec. Dr Frank D Gray, 12 N Rosalind Avenue Orlando

Georgia *Examination* Atlanta and Augusta June. *Endorsement.* Atlanta, June Sec, Mr R. C Coleman 111 State Capitol Atlanta 3

Hawaii *Examination* Honolulu July 10-13 Sec Dr I L Tilden 1020 Kapiolani St Honolulu

Idaho Boise, July 10 Sec Mr Armand L. Bird 305 Sun Bldg Boise

Indiana *Examination* Indianapolis June. Sec. Dr Paul R. Tindall, 1138 K of P Bldg Indianapolis.

Iowa * *Examination* Iowa City June 12 14 Sec Dr M A Royal 506 Fleming Building Des Moines 19

Kansas Kansas City, June 7 8 Sec., Dr J F Hassig 905 N 7th Street Kansas City

Kentucky *Examination* Louisville, June 14 16 Sec Dr Bruce Underwood 620 S 3rd Street Louisville 2

Maine *Examination and Reciprocity* Augusta July 11 12 Sec Dr Adam P Leighton, 192 State St Portland

Maryland *Examination* Baltimore June 20 23 Sec. Dr Lewis P Gundry, 1215 Cathedral Street Baltimore 1 *Homeopathic* Baltimore June *20 21* Sec, Dr John A Evans 612 W 40th St Baltimore.

Massachusetts *Examination* Boston, July 11 14 Sec Dr George L Schadt Room 37, State House Boston 33

Missouri Examination St Louis, May 31 June 2 and June 7 9 Exec Sec Mr John A Hailey Box 4 State Capitol Building St Louis

Nebraska * *Examination* Omaha June 5 7 Director Bureau of Examining Boards Mr Oscar F Humble 1009 State Capitol Building Lincoln 9

Nevada Carson City May 1 Sec Dr George H Ross, 112 Curry Street Carson City

New Hampshire Concord Sept 13 Sec Dr John Samuel Wheeler 107 State House Concord.

New Jersey *Examination* Trenton *June 20-23* Sec Dr E. S Hallinger 28 West State Street Trenton

New York *Examination* Albany Buffalo New York and Syracuse June 27 30 Sec Dr Jacob L Lochner Jr 23 S Pearl St Albany

North Carolina *Endorsement* Pinehurst, May 1 *Written* Raleigh, June 19 22 *Endorsement* Raleigh, June 19 Sec, Dr Ivan Procter, 226 Hillsboro Street, Raleigh

North Dakota *Examination* Grand Forks, July 5 7 *Reciprocity* Grand Forks July 8 Sec, Dr C J Glaspel Grafton

Ohio *Examination* Columbus June 14 17 Sec Dr H M Platter 21 W Broad St, Columbus 15

Oklahoma * *Examination* Oklahoma City June 7 8 Sec., Dr Clinton Gallaher 813 Braniff Building Oklahoma City

South Carolina *Examination* Columbia June 26 29 *Reciprocity* First Monday of each month Sec Dr N B Heyward 1329 Blanding Street Columbia.

South Dakota * Sioux Falls July 18 19 Sec Dr C E Sherwood 300 First National Bank Bldg Sioux Falls.

Texas * *Examination* Austin, June 19 21 Sec Dr M H Crabb 1714 Medical Arts Bldg Fort Worth 2

Utah *Examination* Salt Lake City, June Dir Dr Frank E Lees, 324 State Capitol Building Salt Lake City

Virginia *Examination.* Richmond June 23 24 *Endorsement* Richmond June 22 Sec, Dr K D Graves 631 First St S W Roanoke

Wisconsin * Milwaukee, July 11 13 Sec, Dr C A Dawson River Falls

Wyoming *Examination* Cheyenne, June 5 Sec Dr Franklin D Yoder Capitol Bldg Cheyenne.

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* Basic Science Certificate required

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Arkansas *Examination* Little Rock May 9 Sec Mr L E. Gebauer 1002 Donaghey Building, Little Rock.

Connecticut *Examination* New Haven June 10 Exec Asst, State Board of Healing Arts M G Reynolds 110 Whitney Ave, New Haven

Florida *Examination* Gainesville, June 3 Sec, Mr M W Emmel, University of Florida Gainesville

Michigan *Examination* Detroit and Ann Arbor, May 12 13 Sec Miss Eloise LeBeau, 101 N Walnut St Lansing

Nebraska *Examination* Omaha, May 2 3 Director, Bureau of Examining Boards Mr Oscar F Humble 1009 State Capitol Bldg Lincoln

New Mexico *Examination* Santa Fe May 7 Sec Mrs Marguerite Cantrell Box 1522, Santa Fe

Oregon Portland June 17 Sec., Dr C D Byrne University of Oregon Eugene.

Rhode Island *Examination* Providence, May 10 Administrator of Professional Regulation Mr Thomas B Casey 366 State Office Bldg, Providence

South Dakota Vermillion June 2-3 Sec., Dr Gregg M Evans 310 E 15th Street Yankton.

Bureau of Medical Economic Research

MEDICAL ECONOMIC REVIEWS AND ABSTRACTS

Prepared by the Staff of the Bureau of Medical Economic Research

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Compulsory Medical Care and the Welfare State By Melchior Palyi National Institute of Professional Services Chicago 1950

In a prefatory note the author states his purpose the study ot nationalized medicine as an aspect of the Welfare State As an internationally recognized educator and economist who lived in Europe for 40 years Dr Palyi — now an American citizen—is singularly fitted for his study He has taught at leading German and American universities He was both a student and assistant of Lujo Brentano and Max Weber two leading social scientists of the Bismarck age He served as chief economist to the Deutsch Bank in Berlin and as scientific advisor to the Reichsbank of Germany Thus he is particularly familiar with the Welfare State as developed in Germany His firsthand knowledge makes his book a valuable contribution to the literature on this subject

HISTORICAL BACKGROUND

The idea of the Welfare State penetrated the Greco Latin city states, the medieval city, and the post-Renaissance absolute monarchy Dr Palyi notes that in all welfare states the institution of benefit programs was the chief means of making people dependent on their rulers and wherever such programs existed there was constant struggle, often warfare, to seize the power that was dispensing the benefits

The concept of the Welfare State was well entrenched in the benevolent despotism that preceded Bismarck. Bismarck, however, gave the Welfare State a quasidemocratic twist Dr Palyi sees his "middle of-the-road socialism as the connecting link between the old autocrats and the coming totalitarians He notes the similarity between Bismarck s desire to overcome Marxism by his own brand of state socialism and the present attempt of the Fabians the Keynesians and the New Dealers to avert totalitarianism with their middle-of-the road statism In actuality however the Iron Chancellor s Welfare State was a military monarchy capitalizing on the popular appeal of share the wealth schemes The author quotes from the Bismarck biography of Erich Eyck To his mind the State by aiding the workers should not only fulfill the duty ordered by religion but it should obtain in particular a claim on their thankfulness a gratitude that was to be shown by loyalty to the government and by loyal pro government votes in elections' (page 22) As a major device for obtaining this loyalty Bismarck instituted a compulsory sickness scheme in Germany on Jan. 1 1884

Bismarck s paternalistic approach spread to other countries Shortly before or during World War I Britain Norway Iceland, Russia and other countries introduced modified reproductions of the German compulsory medical scheme These were followed by more countries after 1918 New impetus was given to the spread of the movement by the great depression At this time France finally capitulated with its own version of the German system Both in Germany and France the compulsory medical schemes were established without the consent and often against the very vocal resistance of those who were supposed to benefit Lenin s scheme, introduced in Russia in 1917, was the first complete cradle-to-grave plan, the first plan embodying the complete nationalization of medicine.

Once a nation has started down the road of welfarism, anyone who can promise greater benefits and security has every chance of success Thus the already deep rooted welfare concept in Germany paved the way for the ultranationalism and superwelfarism of Hitler Dr Palyi points out the emphasis on health in the Nazi program of racial nationalism. He quotes a committee report on health insurance of the Canadian House of Commons (March 16, 1943) as follows ' During the early years of Hitler s regime the government's medical program was looked upon by many observers as one of the greatest props ot the totalitarian state" (page 24)

The most crucial period since the age of Bismarck in the Western history of compulsory health insurance was 1943-1946 The chaos of the hour of liberation from Nazi occupation precipitated much hurried legislation and far reaching reforms Communists had a decisive influence in public affairs In 1944 France passed a new social security law In the same year Belgium also introduced a sickness scheme. Under abnormal wartime and postwar conditions either new sickness plans were instituted or the old ones revamped in Italy, Holland Australia Argentina Brazil, Chile, Spain, the Russian satellite countries Costa Rica Ecuador and Britain Legislation was passed but not yet put into effect in three Canadian provinces and in Sweden

CONTEMPORARY SCHEMES

Dr Palyi shows that most of the present plans are styled either after the Bismarckian or Leninian schemes the Lenin type however, seems destined to become the more popular In the German scheme the beneficiaries were 'insured." At the outset, they were classified according to risk and received benefits in proportion to their contributions Coverage was restricted to employees and their families and benefits were received in cash The scheme did not intend to free the individual ot all responsibility The Russian scheme made no pretences of insurance or business-like management It attempted to cover everyone and provide benefits according to need and unrelated to any contributions (Actually since Stalin, this scheme has been considerably modified) In reality, the difference between the two types of plans is only one of degree As soon as cash benefits are reduced and benefits in kind substituted, the scheme becomes a means of redistributing wealth and any resemblance to insurance is gradually eliminated. The German system today is still the nearest to the Bismarckian setup The contemporary French and British schemes embody the Lenin type of security

Rising Costs—Whether the plan is drawn up as governmentalized insurance based on payroll taxes levied on employers and employees (German plan) or as an over all security scheme carried by the general taxpayer (Russian plan), or a compromise torm skyrocketing costs seem to be a curse that cannot be avoided unless the functions of the scheme are so curbed as to make it completely ineffective. In Britain, the total cost of Bevan's scheme, which started on July 5, 1948 was set at $800,000,000 for the first nine months of operation By February 1949, this amount had to be raised to over $1,100 000 000, well over $30 per capita of beneficiaries The budgeted cost of the new health plan for 1949-1950 is $1,410 000,000, just about 25 per cent more than what had been estimated nine months earlier An earlier scheme in Great Britain, which was introduced by Lloyd George in 1911, kept the cost down somewhat by its many attempts to utilize insurance principles Yet the per capita costs of the service doubled in the six years between 1922 and 1927, a period of virtually stable prices

In France, under the old panel system the tax on payrolls was 2 80 per cent in 1938 In 1946 the new government medical scheme was instituted with a payroll tax of 4 80 per cent This tax was increased to 5 44 per cent in 1947 and 6 16 per cent in 1948 Despite the increasing taxes, the plan was taced with a deficit in 1948 The seventyfold rise in the total costs of the French health scheme from 1935 to the end of 1948 cannot be explained by a thirtyfold inflation in retail prices and a thirty-five fold inflation in a wholesale price index not even if the extension of coverage to about 20 per cent more persons is considered.

German compulsory medicine started with a payroll tax of 4 5 per cent The present tax is 7 to 7 5 per cent The total per capita medical expenditures increased trom 10.22 marks ($2 50) 45 years ago to 27 62 marks ($6 60) in 1913 and 72 43 marks (almost $18 00) in 1930 The general price level increased only 50 per cent during this period

Dr Palyi notes also the rising costs ot bureaucratic administration and political corruption Administrative costs ot compulsory health schemes account for as much as tour fifths to five sixths of the respective countries total social security administrative costs Within the health schemes administration costs generally absorb about 8 per cent of total outlay

Wherever compulsory government medical plans are present, the incidence of illness shows a decided increase In France in 1948, people went to the doctor 3 times more often per insured than they did under the previous more limited panel system A table on sickness statistics of German obligatory panels shows that the number of paid sickness days per 100 members increased from 685 2 in 1885-1913 to 1,329 8 in 1928 Although this upward trend in absenteeism was reversed for a while by Brüning's reforms, the number of paid sickness days per 100 members rose again from 926 9 in 1933 to 939 7 in 1938

To meet the rising total costs of the health schemes, their coverage is almost invariably expanded The hope of added revenue from new contributors, perhaps from those in higher income brackets, however, results in financial disappointment When family members and members with higher incomes enter the schemes they generally bring more than proportionate demands Because the plans always fail to provide what they promise, a motive or excuse for increasing the amount of benefits and number of services arises This brings added costs which must be met with added taxes or poorer service It is a vicious cycle with no turning back To go back, says Dr Palyi, 'would be risking political suicide Semi-dictatorial regimes, caught in a depression, like Brüning's in Germany (1930-1931) and Schuschnigg's in Austria (1937) tried it That helped to seal their fates Only a military ruler like Pilsudski in Poland (1933) and, of course, Stalin (1938) can afford such experimentation' (page 71)

Deteriorating Medical Services—What happens to the doctors, the key figures in any medical system, under a nationalized health plan? One way to curtail the rising costs of government medical schemes is to reduce the doctor's fees The doctor is then forced to compensate for his loss of income If he is paid under a fee-for-service arrangement, there is a tendency for him to increase his number of performances If he receives a fixed amount for each patient, the tendency is to increase the the number of patients on his panel In any case, the patient load becomes too great to administer anything but superficial and mechanical medical attention On the patient's side, there is a strong temptation to harass the doctor with minor or imaginary ailments ' half-pay with no work has a temporary preference, in the individual's schedule of desirable things over uninterrupted work at full pay " (page 99) The very considerable rise in the number of absences from factory and office work under the compulsory schemes attests this fact The real problem, Dr Palyi demonstrates, does not lie in the deliberate malingering of some patients but in something he calls the 'subjective risk" "To be sick is, to an undefinable but very substantial extent, a matter of 'psychology " (page 95) Sickness often comes at a time when it is very convenient to stay at home Dr Palyi quotes Sir William Beveridge himself as warning that "the danger of providing benefits which are both adequate and indefinite in duration is that men, as creatures that adapt themselves to circumstances, may settle down to them" (page 95) When there is a free market, the price mechanism tends to eliminate abuses or, at least, to keep them within bounds Under compulsory systems, the doctor could control such abuses by refusing to give his signature to a declaration of the patient's illness Most of the doctors, however, engaged in a constant scramble for more patients, cannot afford the unpopularity which would result from such action Thus, there is an unintentional collaboration between patients and doctors which fosters abuse and malingering and results in overcrowded offices, long waiting by patients and perfunctory medical service Attempts at control are unsuccessful In some countries, medical expenses are paid for by government funds only after the patient has already directly paid a small initial cost But to be politically expedient, such deductibles have to be too small to accomplish their purpose Once the charge is paid, there is no further restraint on the patient In fact, there is often an attempt by the patient to retrieve the initial cost by prolonging his recovery In some schemes supervisory doctors are employed to control the practicing doctors In the end, most schemes resort to some form of policing Bureaucratic controls over the personnel of the service and its beneficiaries become increasingly necessary The fundamental physician-patient relation is uprooted Medical secrecy ceases Confidence in a physician, whose judgment may be reversed by bureaucrat officials, is lost Objective standards of sickness and treatment are applied to a highly individual and subjective matter Poor medicine at a high cost results

Why then is government medical care so appealing? Dr Palyi answers that there is a deep psychologic reason "the longing in the heart of the masses, on which the politician can capitalize, for protection against the hazards of life, cost what the protection may" (page 134) Until the turn of the century, the appeal to humanitarianism was the principal argument for compulsory medical care To leave those who cannot afford medical care to charity is humiliating Government health insurance will offer these people protection as a matter of right After World War I, the Bismarckian argument became popular people need to be compelled to purchase medical care, because otherwise they do not provide for it themselves Dr Palyi notes that the most effective argument for compulsory medicine still is "to provide for people in the low income brackets who cannot provide for themselves But in practice, and from the outset, the schemes always include a majority that could very well take care of themselves And almost always they leave out a minority, especially the lowest income group, that still has to fall back on poor relief or private charity" (page 135)

Since World War II a new ideology has been added to the humanitarian and paternalistic arguments The professed goal today is 'to provide security for all, and to do so in such a fashion as to equalize the hazards of life between rich and poor, between high-salaried and low-paid, between skilled and unskilled, etc" (page 135) Dr Palyi believes this ideology of equalitarian security is expressed in communist and socialist strength He believes it is clearly stated by the leading French representative, Monsieur Laroque "the French social security plan was aimed in essence at no other target than to introduce a little more justice into the distribution of the national income" (page 138) But, Dr Palyi notes, assuming that the income pattern does need correction, can anything as costly as compulsory health schemes contribute to that goal? The costs of these schemes, if shifted onto business, must be added to the price of the products which these people buy '*As a class,* the beneficiaries receive at best with the left hand what they lose with the right" (page 139) The costs may even be high enough to discourage production and result in a smaller total income to be shared

Another popular argument is that of "historical necessity" Compulsory health insurance is a necessity in industrial society Labor, the most valuable natural resource, must be protected against 'depreciation and obsolescence" Wherever a society becomes industrialized, compulsory medical care inevitably follows Dr Palyi, however, notes that compulsory medical care was introduced into Bismarck's Germany when that country was only on the threshold of industrialization, while it was not introduced into highly industrialized England until a generation later Backward and rural Rumania had a nationalized system some 30 years earlier than progressive, industrialized Belgium The facts do not support the argument of historical necessity

The idea that it is to a nation's advantage to maintain the productivity of labor by protecting its health is economically sound Similarly, it is ethically axiomatic that the poor and helplessly sick must be cared for Says the author, "As a matter of fact, if the 'statesmen' have been able to make capital of medical care, it is because they could and can appeal to incontestable social reasons and sentiments But that is not the problem The problem is whether the sound and desirable objectives on which we all agree could or could not be pursued but by the one and only way of salvation, as the opportunistic politician claims by recourse to governmentalized compulsion and to massive subsidies" (page 144) Dr Palyi believes that insurance against the occurrence of illness is a desirable objective but that it can be more effectively accomplished under a free voluntary system, where competition and the price system would work to prevent exorbitant costs, political corruption and waste "Even so," he notes, "the fundamental fact remains that no country can provide more in sickness care than its economic production permits Ultimately the status of health care depends on the level of wealth, not on schemes of one kind or another' (page 145)

Throughout his book Dr Palyi s thesis is clear National compulsory medical schemes are the entering wedge and the very core of the Welfare State Nowhere have compulsory schemes been successful in providing medical care or in reducing the financial burden of illness They have been successful however in augmenting and strengthening the control of a nation by those who administer the scheme In democracies the Welfare State under the pretense of benevolence humanitarianism and equality is merely a stepping stone to the police state The pathway from one to the other is clearly revealed in the history of the Welfare State in various nations and in contemporary welfare state programs

Perhaps the most important single point Dr Palyi brings forth is this Compulsory medical care is fundamentally different from virtually every other branch of social security With minor exceptions only, all other branches of that system provide benefits in cash Compulsory medical care is the only one which as it developed, placed the major emphasis upon benefits in kind—personal services and materials—rather than in cash "Consequently" he states, 'subjective judgment enters into the administrative picture at almost every step opening the door to arbitrary decisions and to bureaucratic red tape and encroachments, to say nothing of conscious and greedy manipulations A quest for elaborate and costly management and controls arises of a complexity and an intricacy with no parallel in any other field of social security, pouring its own fuel on the fire of financial troubles (page 53)

Throughout the book he unfolds his thesis clearly and concisely The conciseness of his presentation does not favor a discussion of certain related subjects He does not examine certain sociologic changes of the last half century which have encouraged the continued growth and acceptance of security plans In particular, he does not mention the aging population which is the result of the unprecedented health progress of the past 50 years Older people more threatened by sickness and financial insecurity, are likely to favor cradle to grave schemes Their increased numbers enable them to have a more decisive influence on legislation An adequate discussion of this problem however, would require another book Dr Palyi effectively and convincingly accomplishes the task he has set for himself He provides an authentic historical record of compulsory medical care programs and their major economic political and social implications and resultants

Medical Motion Pictures

FILM REVIEWS

The Ears and Hearing 16 mm. black and white sound showing time nine minutes. Prepared in collaboration with Heinrich F Kobrak M D John R Lindsay M D and Henry B Perlman M.D Department of Otolaryngology University of Chicago Chicago Produced in 1940 by and procurable on rental or purchase from Encyclopaedia Britannica Films Inc 1150 Wilmette Avenue Wilmette Ill

This motion picture is divided roughly into three parts the first of which shows the importance of hearing in normal life the second explains with the help of diagrams the action of the auditory ossicles and of the cochlea the third suggests the value of hearing aids for the deaf

It is essentially a brief presentation that can not go deeply into any of these three aspects and would therefore be of greatest value as an introduction to the subject for students in eighth grade and high school classes in physiology It would be excellent for this purpose, inasmuch as the diagrams beautifully show the supposed mode of action of the ear drum and ossicles and because the scene showing the user of a hearing aid will help to overcome the existing widespread and altogether unfortunate unwillingness of many persons with impaired hearing to accept hearing aids The photography animation and narration are excellent

Girls in White 16 mm black and white sound showing time fourteen minutes Produced in 1949 by RKO Radio Pictures Inc New York Procurable on loan to member hospitals from the American Hospital Association 18 East Division Street Chicago 10 or from RKO Radio Pictures Inc 16 mm Educational Division 1270 Avenue of the Americas New York 20 who will refer the request to an organization in the area in which the request originates

This motion picture is a dramatic appeal to call to the attention of young girls the value of nursing as a career It depicts the necessary qualifications for a nurse and portrays the basic training, clinical work and surgery essential in nursing education Various branches of nursing such as public health, the Armed Forces and general hospital work are presented

This is highly recommended for nurse recruitment programs and vocational training courses It will also be of interest to women's clubs and civic organizations The photography narration and direction are excellent

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Chiropractors Use of Title "Physician.'—The defendant was convicted of a violation of the California chiropractic act so he appealed to the appellate department, superior court, San Diego County, California.

The defendant a licensed chiropractor, held himself out to the public by business cards and a sign on his office window as a 'chiropractic physician The jury in the trial court was instructed in effect that if it found that the defendant used the word physician it must find him guilty The chiropractic act provides in part 'Any person who uses the term 'physician the use of which would indicate that he or she was practicing a profession for which he held no license from the state of California shall be guilty of a misdemeanor The defendant contended that his use of the term chiropractic physician was not deceptive of his status as a licensed chiropractor

In 1922, said the court the present chiropractic act an initiative measure, and the present osteopathic act also an initiative measure were submitted to the voters and approved. At that time the medical practice act of 1913 was in effect which authorized to be issued, (1) a physician s and surgeon s certificate authorizing the use of drugs and medicines and (2) a drugless practitioner s certificate Whoever framed the chiropractic act for submission to the people, the court continued obviously had in mind the existing provisions of the medical practice act which made ineligible for a physician s and surgeon s certificate those practitioners of the healing art licensed to practice without drugs In a prior Supreme Court case, it was held that one licensed under the osteopathic law was not entitled to the benefits and prerogatives of the title 'physician on the theory that a "physician practiced with drugs and an osteopath was a drugless practitioner By the same token and by the same process of interpretation, the appellate department concluded, a chiropractor under the existing chiropractic law is specifically denied the right to employ the word 'physician since he professes to heal without drugs or medicines We are not impressed the court further said, with the argument that the defendant has saved himself from violation of the act by adding the word 'chiropractic to the word 'physician There can be no use of the word 'physician by a practitioner of the healing arts except to color and imply a license to practice with drugs The distinction made by the act between the two types of practitioners, those who use drugs and those who do not has been held to be a reasonable classification Therefore in view of the meaning which attaches to the statute in consideration of its express terms and the aim and nature of the class of legislation to which the act belongs we would construe the statute as did the court below and find no error in the instruction given the jury at the trial Accordingly the defendant s conviction for use of the word physician in his advertising was affirmed —*People v Christie 212 P (2d) 629 (Calif 1949)*

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below

American Journal of Diseases of Children, Chicago

79 1-204 (Jan) 1950

Physiologic Background of Fetal Anoxia at Birth and Cyanosis in Newborn C A Smith —p 1

Protamine Tetanus Toxoid A Ross, F L Clapp and C H Parsons —p 10

Deficient Development of Masculinity Psychosomatic Problem of Adolescence W A Schonfeld —p 17

Excisional Surgical Treatment of Pulmonary Tuberculosis in Children M Levitin and M Zelman —p 30

Use of Visammin in Treatment of Whooping Cough A Khalil and A Safwat —p 42

Duodenal Ulcers in Infants J H Fisher —p 50

Hyaluronidase in Administration of Fluids A A Jaworski and J E Farley Jr —p 59

Cystic Change in Pancreas Its Experimental Production P V Veghelyi T Kemeny and J Sos —p 65

Carpal and Epiphysial Development Another Index of Nutritional Status of Rural School Children O D Abbott, R O Townsend R B French and C F Ahmann —p 69

Bronchopulmonary Geotrichosis in Children R H Kunstadter A Milzer and F Whitcomb —p 82

Fibrosis of Pancreas Enterogastrone and Duodenal Mechanism' in Relation to Increased Appetite C U Lowe C D May H M Stauffer and E D B Neuhauser —p 91

Cerebral Palsy Selection and Training of Child with Normal Mentality S Keats —p 124

Excisional Surgical Treatment of Pulmonary Tuberculosis in Children —Levitin and Zelman report on 4 children, from *2½* to 12 years of age, in whom pneumonectomy was performed for pulmonary tuberculosis Three are asymptomatic Repeated gastric washings after the operation revealed no acid-fast bacilli One died as a result of the progression of the tuberculous process The factors responsible for the failure of the treatment were an exudative lesion in the contralateral lung omission of streptomycin, and the fact that the patient a Negro girl 12 years of age, was in the adolescent period an age favorable to spread of tuberculosis She lived more than two and a half years after the operative intervention It is questionable whether this survival would have been possible with other therapy The indication for surgical treatment in 2 patients was 'destroyed lungs ' while in the other 2 patients it was cavities of the basal lobe The first 2 cases would also fit the classification of desperate risk, since no other form of therapy was available It is generally held that in adults pulmonary resection should not compete with the common collapse measures but should be held in reserve for use should such measures fail In children the problem is different, thoracoplasty, so often used in adults, is definitely contraindicated because of the resulting extreme deformity As to the future activity of children with only one lung the authors say that experiments in growing animals revealed that a true hyperplasia of the remaining lung takes place In children in whom the lungs have been removed for conditions other than tuberculosis, similar changes have been observed, with the healthy lung subsequently filling the entire thoracic cavity The functional prognosis is much better when lobectomy is done than when the entire lung is removed Lobectomies performed in children for bronchiectasis have given excellent functional results

Visammin in Whooping Cough —Khalil and Safwat used visammin (also known as khellin) in the treatment of children with whooping cough This drug is an effective vasodilator and an antispasmodic aid in bronchial asthma A considerable number of pharmaceutic preparations containing visammin are available commercially In the work described here, the liquid extract of Ammi visnaga, sold under the name of ammicardine®, was used Although in adults visammin is generally given by intramuscular injection, in children the authors prefer the oral administration Each child was kept under constant supervision and a record was kept of the number and severity of paroxysms Graphs record the results of the treatment with visammin in 22 patients with whooping cough The authors conclude that this drug is valuable in the symptomatic treatment of whooping cough It is not dangerous and has no undesirable side effects even in small children The number of paroxysms and their intensity and duration are rapidly reduced by visammin In consequence, the general condition of the patient, especially as regards sleep and appetite, improves Visammin should be administered orally in doses of 5 to 7 mg per kilogram of body weight per day, this dose to be divided into three or four administrations per day and continued throughout the paroxysmal stage of the disease It is advisable to administer visammin in a syrup to mask its bitter taste

American Journal of Medicine, New York

7 699-848 (Dec) 1949

Radioiodotherapeusis R H Williams, B T Towery H Jaffe and others —p 702

Factors Influencing Effectiveness of Radioiodotherapeusis R H Williams H Jaffe, B T Towery and others —p 718

*Radioactive Iodine I 131, in Treatment of Hyperthyroidism S C Werner, E H Quimby and C Schmidt —p 731

*Effect of Adrenocorticotrophic Hormone (ACTH) on Rheumatoid Arthritis C Ragan, A W Grokoest and R H Boots —p 741

Technics for Recording Ballistocardiogram Directly from Body W Dock and F Taubman —p 751

Effects of Clockwise Rotation of Heart on Electrocardiogram E Goldberger —p 756

Electrocardiographic Evaluation of Boeck s Sarcoid and Advanced Pulmonary Tuberculosis Special Reference to Interpretation of Multiple Unipolar Leads S R First.—p 760

Hemiplegia Attending Acute Myocardial Infarction W B Bean G W Flamm and A Sapadin —p 765

Radioactive Iodine in Treatment of Hyperthyroidism —Radioactive iodine, I^{131}, (eight day half-life) as an agent in the treatment of toxic goiter was studied by Werner and his associates at the Presbyterian Hospital of New York for the past three years Observations in 103 patients indicated that about 50 to 100 microcuries of I^{131} retained per estimated gram of thyroid tissue resulted in satisfactory remission in a high percentage of cases Since the average retention of I^{131} after ingestion is about 50 per cent of the administered amount, the administration of approximately 100 to 200 microcuries per estimated gram of gland weight would approach the desired goal A total dosage of about 3 to 15 millicuries would thus be required For fear of inducing a high incidence of hypothyroidism, they decided to limit the highest dosage to 6 5 millicuries and to retain the low limit at 3 millicuries I^{131} is diluted in water for ingestion The container is carefully rinsed and the washings also swallowed Twenty-four hours after ingestion of the I^{131} the uptake by the thyroid is measured, because at this point uptake is usually maximal Uptake is determined by direct measurement over the thyroid gland with the Geiger counter Apparently vascularity and distribution of colloid play an important role in the responsiveness to internal radiation The over-all result after such therapy is gland shrinkage and subsequent fibrosis About 92 per cent of all the patients were relieved of hyperthyroidism Radioiodine should not be used in primary, previously operated on goiter and should be restricted in general to the older age groups Treatment with I^{131} is the method of choice for hyperthyroidism that has reappeared after operation Administration of sodium iodide or strong iodine solution or of an organic iodine compound during intravenous pyelography or in the form of a gallbladder dye will block isotope uptake In general, two weeks without stable iodine after brief periods of such therapy, or four weeks following more prolonged administration, will suffice to permit I^{131} to be given successfully Similarly, preceding antithyroid drug administration will block I^{131} uptake This effect may wear off in one to four days, but a lapse of several months may be necessary before uptake again becomes sufficient to permit treatment with the isotope

Effect of Pituitary Adrenocorticotropic Hormone (ACTH) on Rheumatoid Arthritis —Ragan and his associates report on 8 patients with rheumatoid arthritis treated with pituitary adrenocorticotropic hormone (ACTH) All received the hormone intramuscularly in divided doses every six hours In most of the patients the average daily dose was 40 mg There was a prompt remission of the symptoms of rheumatoid arthritis After the cessation of therapy relapse occurred in 7 of the 8 patients The protein changes described by Hench could be confirmed in these patients, they were evident in the serum globulin content erythrocyte sedimentation cephalin flocculation and trypsin inhibitor levels Agglutination of group A hemolytic streptococci and sensitized sheep cell agglutination showed only minor changes as the result of treatment It seems probable but has not been definitely established, that the favorable response of the patient with rheumatoid arthritis to the administration of ACTH is due to the production of hyperadrenalism and a consequent suppression of the activity of mesenchymal tissue

Hemiplegia Attending Acute Myocardial Infarction.—Bean and his associates say that it is usually taken for granted that hemiplegia occurring at the time of acute myocardial infarction or shortly after is embolic in origin, the embolus coming from a ventricular mural thrombus In a survey of a large series of cases of myocardial infarction proved at autopsy, it was noted that the majority of cases of hemiplegia which followed infarction of the heart were associated with cerebral arteriosclerosis and local thrombosis or even hemorrhage rather than with emboli The authors made electrocardiograms in many patients with hemiplegia In several patients the medical history revealed that hemiplegia had ensued shortly after cardiac infarction The protocols of all autopsies done in the department of pathology of the University of Cincinnati and the Cincinnati General Hospital for the years 1941 through 1946 were investigated for cases in which hemiplegia was precipitated by acute myocardial infarction The following criteria were used in selection the presence of a gross recent infarct of the heart measuring at least 3 by 3 cm and of focal neurologic signs suggesting cerebral hemorrhage, thrombosis or embolism, but the absence of evidence of an acute vascular lesion of the cerebral vessels The authors present clinical and morphologic observations on 6 patients with major symptoms of acute cerebral disturbance associated with recent infarction of the heart In all but 2 patients a myocardial infarct was suspected clinically There was suggestive evidence that the pattern of local arterial disease in the brain determined the clinical signs and symptoms A reduction of cardiac output following infarction of the heart may thus lead to the clinical masquerade of an acute cerebral vascular accident. If the hypodynamic state is severe enough or lasts long enough, vasoparesis vasoparalysis and coalescing small hemorrhages may occur The syndrome has received little attention If it is properly identified and treated, there is some chance that one form of 'stroke' will warrant a more optimistic outlook

Archives of Internal Medicine, Chicago

85 1-198 (Jan) 1950

- Use of Lithium Salts as Substitute for Sodium Chloride J H Talbott. —p 1
- Renal Osteodystrophy Associated with Diabetes Mellitus Congenital Polycystic Hypoplasia of Kidneys and Polycystic Disease of Pancreas A Jackson G C Bates M Slavin and M D McFarland —p 11
- Use of Paraaminobenzoic Acid in Dermatomyositis and Scleroderma Report of 6 Cases C J D Zarafonetis A C Curtis and A E Gulick —p 27
- *Antimicrobial Therapy in Typhoid. V Knight F Ruiz Sanchez A Ruiz Sanchez and others —p 44
- New Sulfonamide (Gantrisin®) Studies on Solubility Absorption and Excretion F A Svec P S Rhoads and J H Rohr —p 83
- *Whipple s Intestinal Lipodystrophy Report of 4 Cases and Discussion of Possible Pathogenic Factors J P Hendrix B Black Schaffer R W Withers and P Handler —p 91
- Value of Southey Leech Tubes in Rapid Relief of Massive Edema. M J Fiese and J M Thayer —p 132
- Studies on Bone Marrow in Hyperglobulinemia I Berlin S L Wallace and L M Meyer —p 144
- Infectious Diseases Fifteenth Annual Review of Significant Publications H A Reimann —p 156

Paraaminobenzoic Acid in Dermatomyositis and Scleroderma—Zarafonetis and his associates describe observations on 6 patients whom they treated with paraaminobenzoic acid Two patients with dermatomyositis 1 of whom also had scleroderma improved greatly during prolonged therapy with paraaminobenzoic acid. Three of 4 patients with scleroderma experienced beneficial effects from similar treatment. The patients were given 2 Gm every two hours, 3 Gm every three hours or 2 Gm every three hours The cause of dermatomyositis and scleroderma is unknown, but the concept of "diffuse collagen disease is generally accepted as applicable to them and to lupus erythematosus Since paraaminobenzoic acid had proved effective in lupus erythematosus it was reasoned that it might also be beneficial in dermatomyositis and in scleroderma This proved to be the case in the aforementioned 6 cases, but the mechanism of action of paraaminobenzoic acid in dermatomyositis and scleroderma remains obscure as it is in lupus erythematosus

Antimicrobial Therapy of Typhoid—The investigations described by Knight and others were carried out on patients with typhoid in the region of Guadalajara Mexico, several Mexican and United States investigators taking part in the study Three drugs were tried a polymyxin B, aureomycin and chloramphenicol (chloromycetin®) The incidence of typhoid in Guadalajara is high In the years 1943 to 1947 there was an average of 152 cases reported annually, and there is reason to believe that an even larger number escaped reporting Because of the endemic character of the disease it is particularly prevalent in childhood and early adult life The development of infection after the age of 35 years is rare and was not observed during the months of the present study when 50 patients were treated. All patients were acutely ill The administration of polymyxin B to 4 patients resulted in no beneficial effects definitely attributable to the drug and was accompanied with serious manifestations of toxicity Thirty one of 34 patients who received aureomycin made uncomplicated recoveries, and the duration of total illness was reduced The results were not uniform. All 13 patients who received chloramphenicol recovered within approximately seventy-two hours regardless of the severity or the length of time the patient had had the infection when antimicrobial therapy was started This superiority of chloramphenicol over aureomycin for typhoid was not observed in a concurrent study of the two drugs in the treatment of brucellosis and rickettsial infections

Whipple's Intestinal Lipodystrophy — Hendrix and his associates say that the rare debilitating disease first described by Whipple in 1907 is characterized clinically by gastrointestinal distress with fatty diarrhea and failure of intestinal absorption leading to death In some respects it resembles the sprue syndrome but macrocytic anemia is lacking It is frequently accompanied with chronic arthritis and hypotension Four patients with this condition were examined post mortem at Duke Hospital, the authors believe this to be the largest series seen in any clinic One of these patients was followed at intervals throughout his illness The diagnosis was made during life by biopsy of a mesenteric lymph node The authors stress that the disease may be recognized post mortem by nonsudanophilic macrophagocytosis of the lamina propria of the small intestine and occasionally of the proximal portion of the colon, lipogranulomatosis of the mesenteric and draining lymph nodes and absence of significant evidence of chylous obstruction Many patients present chronic polyserositis and marantic endocardiosis The cause of Whipple s disease remains unknown but a pathogenesis is suggested It is believed that the deficient absorption of fat in Whipple s disease is due to a fault of unknown nature of the epithelium of the small intestine which likewise impairs the absorption of glucose and perhaps of products of protein digestion as well It is suggested that Whipple s disease is a sequel to a systemic illness or intoxication characterized by inflammation of the serous membranes There is suggestive evidence in some cases of functional impairment of the adrenal cortex Since the diagnosis of Whipple s disease rests on the demonstration of the characteristic changes in the mesenteric lymph nodes biopsy is imperative in order to differentiate the disease from other spruelike states

Cincinnati Journal of Medicine

30 651-706 (Dec) 1949

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Use of Catgut Cotton and Silk in Surgery J L DeCourcy —p 654
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16 633-924 (Dec) 1949

*Preliminary Report on Use of Para Aminosalicylic Acid in Treatment of Pulmonary Tuberculosis H C Sweany, G C Turner, M Lichtenstein and S Entin —p 633
Effect of Streptomycin with Para Aminosalicylic Acid on Emergence of Resistant Strains of Tubercle Bacilli E Dunner, W B Brown and J Wallace —p 661
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Treatment of Tuberculosis with Promizole Clinical Investigation with Matched Controls H A Burns W H Feldman H C Hinshaw and others —p 867
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Effects of Administration of Protein Hydrolysate (Amigen), Testosterone and Folic Acid on Nitrogen Balance in Patients with Chronic Pulmonary Tuberculosis H S Newman M A Rubinstein and G Ross —p 885

Paraaminosalicylic Acid in Pulmonary Tuberculosis—Sweany and co workers give a preliminary report on 40 patients with pulmonary tuberculosis to whom paraaminosalicylic acid, neutralized with 0 6 Gm of sodium bicarbonate per gram of paraaminosalicylic acid, was given in a liquid preparation in a dose of 3 Gm four times daily for 60 to 120 days Roentgen examination, clinical effects and laboratory changes noted were fairly comparable to the results observed in streptomycin-treated patients, but were not always as clearcut and did not appear as soon as in streptomycin-treated patients Paraaminosalicylic acid appears to be of value to patients with tension cavities Many cavities shrank and some became lost to view after paraaminosalicylic acid treatment In chronic fibro-ulcerative tuberculosis there was the same erratic effect on some cavernous types with and without infiltration as were observed in similar cases of disease treated with streptomycin The outstanding difference was that germ resistance was not of great significance in paraaminosalicylic acid therapy A more prolonged study is mandatory in this type of case, since the drug appears to be practically harmless, produces clinical improvement and lessens cough and expectoration Paraaminosalicylic acid may be used simultaneously or alternately with streptomycin Paraaminosalicylic acid therapy may be combined with surgical treatment Improvement resulted from use of this drug in 50 per cent of the cases in which streptomycin therapy failed Paraaminosalicylic acid appears to have a definite field of usefulness in the treatment of pulmonary tuberculosis

Paraaminosalicylic Acid in Pulmonary Tuberculosis in Sweden—Lehmann compared the efficacy of paraaminosalicylic acid in the treatment of 205 patients with pulmonary tuberculosis in Sweden with that of streptomycin in the treatment of 223 patients by the Army, Navy and Veterans Administration in the United States Peroral administration of paraaminosalicylic acid was used as the routine method, with an average dose of 14 Gm daily divided into four to six doses Treatment was continued for one to three months in 30 per cent of the cases three to six months in 49 per cent of the cases and more than six months in 21 per cent of the cases Ninety-nine of the 205 Swedish patients were male and 106 were female Six patients were in the age group 5 to 15 years 151 in the age group 15 to 35 years, and 48 in the age group 31 to 50 years The Swedish and American clinical material was comparable with respect to age, character of the pulmonary processes and frequency of cavities Although the duration of the treatment with streptomycin was four months, the comparison of the efficacy of the two drugs seemed justified, as, in the majority of the patients treated with streptomycin, resistance to the drug developed *within three to four months* of treatment and, therefore, further improvement could be expected to take place by continued treatment only in a minor number of cases Normal temperature was attained in 75 per cent of the patients treated with paraaminosalicylic acid and in 47 per cent with streptomycin Improvement in the erythrocyte sedimentation rate was observed in 84 per cent of the patients treated with paraaminosalicylic acid and only in 51 per cent of the patients treated with streptomycin The gain in weight was superior in patients treated with streptomycin, 84 per cent compared with 62 per cent for paraaminosalicylic acid The streptomycin material was superior in sputum decrease and sputum conversion The better results with the streptomycin therapy were probably due to the use of collapse therapy No collapse therapy was instituted during the observation time before treatment with paraaminosalicylic acid during treatment and during the follow-up period There were no pronounced differences with respect to changes in cavities in the two groups Continued improvement was observed much more frequently in the follow-up of the patients treated with paraaminosalicylic acid than in those treated with streptomycin Toxemic reactions did not occur with paraaminosalicylic acid therapy

Factors Influencing Streptomycin Therapy in Pulmonary Tuberculosis—Tucker reports on 86 patients with pulmonary tuberculosis treated with streptomycin at the Minneapolis Veterans Administration Hospital during the period of January 1947 to January 1949 The patients were given 2 Gm of streptomycin daily for 120 days, later 2 Gm daily were given for 60 days and then 1 Gm daily for 120 days Alternation of regimens of 1 Gm and 0 5 Gm daily for 42 days was begun in April 1948 All patients had a definitely acute or subacute inflammatory tuberculous component a proportion of these had mixtures of chronic disease and more recent disease Results in this 'mixed' group were observed to be definitely inferior to those in the "relatively unmixed' acute and subacute cases in all categories studied Results in the 86 patients were superior when collapse therapy was used in conjunction with the period of maximum benefit from streptomycin therapy, which in general consisted of the first eight months after the start of antibiotic therapy This was true for both 'relatively unmixed acute and chronic cases and for "mixed' cases, but especially for the latter These observations appear to be largely independent of variations in the streptomycin regimens employed Any degree of roentgenographically observed improvement at the end of the initial treatment period is inadequate for comparison of results with various regimens employed or in groups treated Standardized measures of the degree of roentgen improvement assist roentgenographic evaluation particularly in the first months after the start of therapy Sputum conversion rates and relapse rates are important additional criteria for evaluation of results Mortality rates are of increasing value in later follow-up periods The response of the cavitary component to streptomycin therapy is the chief factor determining *the outcome* Prompt and energetic measures directed toward the control of that component present the best opportunity for further improvement of the already distinguished achievement of streptomycin therapy of pulmonary tuberculosis

Experimental Medicine and Surgery, Brooklyn

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Florida Medical Association Journal, Jacksonville

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Streptomycin Therapy in Granuloma Inguinale. R. F Sondag J F Henry and J Batsche.—p 355
*Prevention and Treatment of Oliguria and Anuria Due to Sulfonamides A J Butt and R. Birchall —p 360

Streptomycin in Granuloma Inguinale —Sondag and his co-workers treated 597 patients with granuloma inguinale with streptomycin at the Rapid Treatment Center in Melbourne, Fla Four hundred and three patients (67 5 per cent) were between the ages of 16 and 30 years the period of maximal sexual activity All except 1 patient (male) were Negro The first 470 patients were treated intramuscularly with 0 66 Gm of streptomycin diluted in 4 cc of water isotonic sodium chloride solution or procaine hydrochloride solution every four hours giving a total daily dose of 4 Gm The next 127 patients were given 0 5 Gm. of streptomycin in 5 cc of diluent every six hours by intramuscular route, or a total daily dosage of 2 Gm. In both schedules the amount necessary to effect healing ranged from 5 Gm to over 50 Gm 1 patient receiving a total of 70 Gm The average period of treatment was thirteen days The lesions were healed in 202 of the 470 patients (43 per cent) after 20 Gm of streptomycin were given The lesions were healed in 51 of the 127 patients (40 per cent) after only 10 Gm of the drug were given The 2 Gm daily schedule therefore was more effective with respect to total dosage required to effect healing There were only 14 patients whose lesions failed to heal completely and in 9 of these the lesions were squamous cell carcinoma The tendency to relapse is a notorious feature of granuloma inguinale Twenty-eight of the authors patients were readmitted for additional treatment An additional 178 patients (30 per cent) followed from three to sixteen months yielded 164 (92 per cent) cures at the time of the last follow-up examination Only 3 patients had toxic reactions

Oliguria and Anuria Due to Sulfonamide Compounds —According to Butt and Birchall oliguria and anuria which may follow the administration of sulfonamide compounds are due either to mechanical obstruction or to destruction of the epithelial cells of the distal convoluted tubules It is necessary to differentiate obstructive from nephrotoxic anuria because the methods for their prevention and treatment are different Obstructive and nephrotoxic anuria can be differentiated by cystoscopy and ureteral catheterization The demonstration of impacted crystals in the lower part of the urinary tract indicates obstruction, the absence of urine or the observation of a small amount of urine free from crystals indicates that the anuria is due to toxic nephrosis Prevention of obstructive anuria is based on the careful selection of the particular sulfonamide derivative employed and on the maintenance of both an adequate intake of fluid and an alkaline urine Prevention of nephrotoxic reactions is based on the careful exclusion from sulfonamide therapy of all patients who have shown evidence of previous sulfonamide sensitivity The value of sulfonamide mixtures in the prevention of nephrotoxic reactions has not been clinically established Treatment of obstructive anuria consists of the dislodgement of the impacted crystals by ureteral catheterization followed by efforts designed to establish and maintain a rapid flow of dilute alkaline urine. Treatment of anuria due to acute toxic nephrosis consists primarily of a rigid restriction of the basal fluid intake to 500 cc. in twenty-four hours and of the salt intake of 4 Gm. in twenty-four hours The amount of vomitus, diarrhea and duodenal drainage must be carefully measured and replaced with an equal amount of isotonic solution of sodium chloride The caloric intake is restricted to carbohydrate in an attempt to decrease protein breakdown and inhibit the development of ketosis

Georgia Medical Association Journal, Atlanta

38 525 606 (Dec.) 1949

*Two Years Experience with Diagnosis of Uterine Cancer by Means of Vaginal Smear as Routine Office Procedure H C Frech —p 525
Tumors of Parotid Glands Review of 57 Cases. C S Jones J E Scarborough and R L Brown —p 530
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Bleeding Duodenal Polyp Report of Case. M Johnson and W S Dorouch.—p 542
Transverse Abdominal Incisions Analysis of 1 000 Consecutive Cases W G Whitaker Jr H Rogers J G Durden Jr and R. L. Robertson Jr —p 544
New Principle in Douching R B Greenblatt and N H Brown —p 549
The Threat Continues E Callaway —p 553

Vaginal Smear in Diagnosis of Uterine Cancer —Frech examined vaginal smears of every female patient regardless of the presence or absence of gynecologic symptoms and smears were repeated at six month intervals Three thousand eight hundred and ninety-three slides in 1 112 cases were examined also 488 slides in 244 cases of other physicians In the series from his own practice 13 smears were positive. Two proved to be adenocarcinoma of the ovary, 7 preinvasive carcinoma of the cervix, 3 invasive squamous cell carcinoma of the cervix and 1 adenocarcinoma of the uterus, giving a percentage accuracy of 94 per cent In addition, 6 slides were positive which biopsy proved to represent squamous cell metaplasia. In 1 of the 6 positive cases carcinoma of the cervix developed later Inflammation, diabetes and vitamin B deficiency may cause changes in the nuclear structure of the cells, which closely resemble those seen in malignant conditions Twenty-one smears in one series were called suspicious, and 8 of these were proved negative by biopsy 2 patients with suspicious smears had vitamin B deficiency and improved with therapy 1 had a pinworm infection of the vagina 2 had diabetes and when the diabetes was controlled the smears became normal 2 women were pregnant and 2 had trichomonas After this was treated repeat smears were negative None of the patients with preinvasive carcinoma of the cervix presented gynecologic complaints Of the 488 slides examined for other physicians 3 were positive, 1 lesion proved to be preinvasive carcinoma of the cervix 1 invasive carcinoma of the cervix and 1 adenocarcinoma of the rectum Ten patients in this group had slides that were considered suggestive of lesions but on repeated smears and biopsies were proved to be negative The author concludes that the Papanicolaou technic is definitely an aid in screening patients Its importance lies in the fact that it points out when biopsy should be done in a cervix of normal appearance

Journal Pharmacology & Exper Therap , Baltimore

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Therapeutic and Toxic Properties of Oxygen Versus Sulfur Bound Trivalent Antimony in Organic Antimonials G W Luttermoser W T Haskins and F J Brady —p 276
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Relative Role of Liver and Kidneys in Detoxication of Standardized Curare Preparation (Intocostrin) A R. Kelly and F E Shideman —p 292
Inotropic Synergism of Cardiac Glucosides with Calcium Acting on Frog's Heart in Human Serum. W T Salter L J Sciarini and B Rubin —p 314
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New England Journal of Medicine, Boston

241 993-1030 (Dec 22) 1949

*Generalized Intestinal Polyposis and Melanin Spots of Oral Mucosa, Lips and Digits Syndrome of Diagnostic Significance H Jeghers V A McKusick and K H Katz—p 993
Hypertension Due to Partial Renovascular Occlusion Report of Case P M Cornwell—p 1006
Pulmonary Effects of Cocoanut Grove Fire Five Year Follow Up Study H S Pittman and R Schatzki—p 1008
Oddity of Pregnancy L Levine and R H Goodwin—p 1010
*Vitamin Supplementation in Health and Disease P J Culver—p 1011
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241 1031-1076 (Dec 29) 1949

*Generalized Intestinal Polyposis and Melanin Spots of Oral Mucosa, Lips and Digits (Concluded) Syndrome of Diagnostic Significance H Jeghers V A McKusick and K H Katz—p 1031
*Aureomycin Treatment of Herpes Zoster M Finland E F Finnerty Jr H S Collins and others—p 1037
Prosthesis Following Hemipelvectomy J F Cooper and G W Taylor—p 1047
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Islet Cell Adenoma of Pancreas Epilepsy Carcinoma of Thyroid Gland—p 1063
Endometriosis of Pelvis and Retroperitoneal Tissues Endometrial Metastasis to Iliac Lymph Node—p 1066

Intestinal Polyposis and Melanin Spots—Jeghers and his associates say that in 1944 one of them reported 2 patients with a distinctive type of melanin pigmentation of the oral mucosa lips and digits associated with intestinal polyposis Since then 10 cases (including the 2 reported in 1944) have been collected from five different hospitals By supplementing these cases with those discovered in the literature and with data from personal communications, it has been possible to assemble a total of 22 proved, 5 probable and 4 possible cases The syndrome presents two features distinctive melanin spots on the buccal mucosa and lips, (the face and digits may be involved to a variable extent, but the oral pigmentation is the sine qua non of this portion of the syndrome) and polyposis of the small intestine The stomach, colon and rectum may be involved, but presence of polyps in the small intestine is a constant feature of the syndrome Adenomatosis and papillomatosis are synonyms for this form of polyposis The group of 10 cases included 6 in which more than one member of the same family was involved Sufficient genealogic data are reported to demonstrate the hereditary nature of the syndrome, which appears to be inherited as a simple mendelian dominant Sporadic cases also occur The syndrome appears to have important diagnostic significance in that the external manifestations may be of considerable value in the recognition of the intestinal condition Three additional cases have been called to the attention of the authors since the preparation of this report

Vitamin Supplementation in Health and Disease—Culver questions the need for widespread consumption of purified vitamin supplements Vitamin deficiency states are now infrequent in the United States The lack of objective evidence of any improvement in health, fitness or work capacity of large population groups who received purified vitamin supplements suggests that the average American diet is adequate enough to prevent subclinical vitamin deficiency Many of the so-called signs of vitamin deficiency are nonspecific and are not alleviated by vitamin supplementation The use of vitamins as supportive therapy in infections and chronic diseases is largely empiric Therefore there seems to be little need for vitamin supplements from the nutritional point of view Although many claims for the therapeutic value of vitamins in certain pathologic states will not withstand the test of controlled study, there are some conditions in which a specific vitamin has value by virtue of its pharmacologic properties If a definite state of avitaminosis exists, long-term use of vitamin supplements is unnecessary The best suggestion is that of Cowgill to "vitaminize" the patient for a few days with three to five times the requirements and then establish a good diet If a person has a good diet he will not benefit from vitamin supplements, and if the patient does not have an adequate diet the treatment is a good diet, not vitamins

Aureomycin in Herpes Zoster—Finland and his associates treated 24 patients with clinically characteristic lesions of herpes zoster with aureomycin The drug appeared to halt the progress of this disease and to bring about rapid healing of the lesions Vesicles dried up and became encrusted in the first two to four days of the treatment and healed rapidly and completely In occasional patients new lesions appeared during the first day of treatment but not later unless the therapy was interrupted The pain accompanying the acute lesions subsided after the first day of therapy Postherpetic pain seldom occurred in patients whose treatment was begun early and was maintained in adequate dosage, but pain was not prevented in patients in whom treatment was begun more than two weeks after the first appearance of the lesions The effective oral dosage was 4 Gm daily (1 Gm after each meal and at bed time) for two to four days, or until the lesions were well dried and encrusted Half this dose was given for an additional three to five days This dosage may be used throughout when the larger doses are not tolerated Intravenous doses of 500 mg of the drug daily likewise appeared to be effective and may be used if the oral dose is not well tolerated The optimum intravenous dosage of aureomycin was not ascertained

New Orleans Medical and Surgical Journal

102 289-332 (Dec) 1949

*Use of Anticoagulants in Treatment and Prevention of Coronary Artery Disease and Myocardial Infarction E S Nichol—p 289
Vagotomy in Treatment of Peptic Ulceration G R Walters and J T Sanders—p 294
Gastroenterological Evaluation of Vagotomy in Treatment of Ulcer M Shushan—p 298
Present Status of Analgesia and Anesthesia in Obstetrics I Dyer—p 303
Management of Acne in General Practice H W Jolly Jr and M E Kopfler—p 312
Case of Bilateral Spontaneous Pneumothorax J Faust—p 318
Cerebral Palsy Today L K Loomis—p 321

Anticoagulants in Coronary Artery Disease—Nichol reports on 98 patients treated with anticoagulants for coronary thrombosis These data compared favorably with the study of the American Heart Association Committee Major hemorrhagic complications, chiefly gross hematuria, developed in 10 per cent of patients in this series There were no deaths definitely due to hemorrhage He also presents observation on 54 patients with long-term dicumarol® therapy, continued for three to sixty-one months in order to prevent recurrent attacks of myocardial infarction Although no control series existed, the results encourage further trial of long-term prophylaxis

Pennsylvania Medical Journal, Harrisburg

52 1617-1776 (Dec) 1949

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Viral Hepatitis—Progress and Problems W P Havens Jr—p 1653
Future for Preventive Medicine P H Long—p 1658
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Can Mongolism Be Eliminated? R F Sangston—p 1671

Psychiatric Quarterly, Utica, N Y

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General Survey of Insulin Treated Patients After Five Years S Kwalwasser and L C Robinson—p 672
Comparisons of Psychotherapeutic Methods in Schizophrenia S D Lipton—p 705
Prenatal Symptoms in Postpartum Psychotic Reactions Preliminary Report R Seidenberg and L Harris—p 715
Multiple Factor Psychosomatic Theory of Schizophrenia Attempt at Consistent Conceptualization L Bellak—p 738
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Psychoanalytic Review, Albany, N Y

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Political Life and Super Ego Regression. J Flescher —p 416
Contribution Towards Psychology of Parties M Brachyahu —p 429

Southern Surgeon, Atlanta, Ga

15 887-956 (Dec.) 1949

Massive Hemorrhage from Upper Digestive Tract with Special Reference to Peptic Ulcer G V Brindley F M Covert and S McL Long —p 887
Stricture of Common *Bile Duct Etiology and Treatment. H Wilson* and C F Yates —p 898
Intramedullary Nailing of Fractures of Shaft of Femur C T Berry —p 907
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Does the Pathologist Need the Clinician s Cooperation? P P Ladewig —p 927

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26 889-1064 (Dec) 1949

Problems in Dynamics of Blood Flow I. Conditions Controlling Collateral Circulation in Presence of Arteriovenous Fistula Following Ligation of Artery E Holman —p 889
Study *of Collateral Circulation After Excision of Arteriovenous Fistulas* L H. Bosher Jr F Harper and I A Bigger —p 918
Study of Cardiac Frontal Area in Patients with Arteriovenous Fistulas H B Shumacker Jr and N M Stahl.—p 928
Experimental and Clinical Use of Vein Grafts to Replace Defects of Large Arteries. J Johnson C K. Kirby F E Greifenstein and A Castillo —p 945
*Complications of Anticoagulant Therapy G D Lilly and R M Lee —p *957*
Venous and Lymphatic Stasis in Lower Extremities I Test for Incompetence in Perforating Veins II Simple Method of Adequate Control W J M *Scott and M Radakovich —p 970*
Walking Venous Pressure Test as Method of Evaluation of Varicose Veins E A White and R Warren —p 987
*Follow Up Study of Patients with Thromboangiitis Obliterans (Buerger s Disease) K. N Campbell B M Harris and F A Coller —p 1003
Evaluation of Sympathetic Neurectomy in Raynaud s Disease Based on Follow Up Study of 40 Patients D A Felder F A Simeone R R. Linton and C E Welch —p 1014
Hypertensive Vascular Disease Associated with Quadrilateral Raynaud s Disease Treated by Total Sympathectomy I Leinwand J W Hinton and J W Lord Jr —p 1034

Complications of Anticoagulant Therapy —Lilly and Lee describe 5 previously unreported deaths and 5 serious post operative complications which resulted from anticoagulant therapy These cases came to the attention of the authors without any effort on their part to conduct a careful investigation of complications of anticoagulant therapy They believe that these cases represent only a fraction of the complications which have occurred *in their community in recent years* They stress that reliable laboratory procedures for the estimation of prothrombin levels are not available Dicumarol® is a hazardous therapeutic agent at best and may assume the role of a fatal poison It may cause a sudden severe and fatal hemorrhage in postoperative patients even when carefully controlled. There is no justification for the employment of anticoagulant therapy in phlebothrombosis *and thrombophlebitis limited to the lower extremity below the groin because proper venous interruption is a* more certain much safer quicker and much less expensive method for the control of this condition The prophylactic use of anticoagulants in postoperative patients is fraught with hazards Correct bed posture and properly supervised exercises will accomplish the same results safely and economically

Venous and Lymphatic Stasis in the Lower Extremities —Scott and Radakovich say that the increased protein rich extracellular fluid, which *is present in venous stasis* and chronic lymphedema induces fibrosis and provides a favorable environment for infection Pigmentation of the skin and induration of the subcutaneous tissues usually develop in time, often complicated by chronic cellulitis a persistent dermatitis or acute inflammatory episodes of localized phlebitis or streptococcic infection When varicosities can be seen or when the engorged venous channels can be felt, tests for incompetence of the communicating veins are available (Trendelenburg test and Ochsner-Mahorner test) but when *induration of the skin and subcutane*ous tissues has occurred the veins can often neither be seen nor felt and the aforementioned tests are inadequate Under these conditions a comparative measurement of volumetric changes in the leg with change in position has proved useful to the authors in determining incompetency of the perforating veins In their test the patient first lies supine for five minutes with the limb elevated about 45 degrees, then a 25 foot (760 cm) tape is secured 2 inches (5 cm.) above the tip of the external malleolus The limb is then wrapped with twenty consecutive turns of the tape, the terminal point is marked and a reading made from the tape With patient and limb in *the same position* the tape is removed and a tourniquet applied The patient stands with the tourniquet in place, and a measurement is taken immediately After this second measurement has been made the tourniquet is removed, and the patient is told to stand as quietly as possible for five minutes. Then a third measurement is taken The fourth measurement repeats the first after the patient has again reclined on the table and elevated the limb for five minutes The greatest differences were noted in patients with incompetency of the perforating veins Most of the physical measures previously in common use had the defect of not overcoming the venous stasis in the lower part of the legs They use an aeropulse legging which consists of an outer duck casing containing a butterfly-shaped balloon in an inner pocket The balloon is inflated and the pressure changes with walking In effect a deep fascia has been placed outside of the skin, and the subcutaneous veins and lymphatic spaces are compressed rhythmically on walking This pulsating pressure powered by the muscular contractions in the leg and exerted throughout the lower part of the leg is important in driving out the excess of extracellular fluid Lymphedema and venous stasis were *effectively controlled induration of the subcutaneous tissues* was reduced ulcers were healed and recurrent attacks of cellulitis and phlebitis were curbed

Follow-Up Study of Patients with Thromboangiitis Obliterans (Buerger's Disease) —Campbell and his collaborators report a follow-up study on 149 patients selected because they fulfilled the accepted criteria All but 2 of these were males The average age of onset of the disease was 34 9 years with the youngest patient giving a history of onset at the age of 15, while the oldest age of onset was 53 years Coldness of the involved extremity was present in 126 of the 149 patients Raynaud s phenomena were present in 24 cases and could be elicited by exposure to ice water in every instance The 24 patients had organic changes in the digits and evidence of occlusive arterial disease Pain in the involved extremity was present in 143 of the 149 patients Intermittent claudication was present in 97 patients There was ulceration of a digit foot leg or amputation stump in 74 instances Visceral involvement was present in 43 1 renal, 17 cardiac 7 splanchnic, 5 ophthalmic and 13 cerebral Seventy six patients had either definite clinical signs a history or histologic confirmation of superficial migratory phlebitis Sixty-eight patients had had one or more amputations during the course of their illness One patient had undergone thirty four amputations and 2 had had thirty amputations Between 1940 and 1948 only 6 patients required major amputations The use of chemotherapeutic and antibiotic agents had lessened the number of secondary amputations following the removal of a phalanx or digit because of the better control of infection Of the 38 patients who underwent sympathectomy 14 had a satisfactory response but that of the remaining 24 was fair or poor If sympathectomy is to be employed it should be done early Of the 121 living patients 88 are still using tobacco Psychosomatic factors seem important *in thromboangiitis obliterans* Many of the patients exhibited a belligerent, bellicose type of personality with a tendency to refuse to heed the advice of the physician Several of the patients had become drug addicts Many had recurrent episodes of phlebitis or further vascular occlusion while under obvious stress from environmental factors

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted Single case reports and trials of new drugs are usually omitted

Australian and New Zealand J. Surgery, Sydney

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*Lateral Lympho Epithelial Cyst of Neck ("Branchial' Cyst) E S J King —p 109
Resuscitation and Anaesthesia J F McCullouch —p 122
Some Aspects of Surgery of Pancreas W Maxwell —p 132
Role of Vaginal Hysterectomy in Gynaecological Surgery C Chapman —p 139
Results of Surgical and Radiological Treatment in Primary Carcinoma of Breast R Fowler and C McCall —p 142

Lateral Lymphoepithelial Cyst of Neck (Branchial Cyst) —According to King the commonest cysts of the neck are of two topographic groups, the medial group, lying in or near the midline, and the lateral group, usually found under the anterior border of the sternocleidomastoid muscle One form, which frequently occupies a position near the bifurcation of the carotid arteries and histologically shows an epithelial lining with immediately subjacent lymphoid tissue, has been designated branchial" cyst The author discusses this type on the basis of observations on 76 cysts These cysts show a considerable range of variation in both position and structure The criterion proposed for inclusion of a cyst in this group is the existence of an epithelial lining with subjacent lymphoid tissue at least in some part (if not the whole) of the cyst wall The cyst commonly lies under the anterior border of the sternocleidomastoid muscle at the level of the bifurcation of the carotid arteries The majority do not project between the vessels but lie superficial to them Some cysts are indistinguishable from an enlarged lymph node, others occur associated with the salivary glands or are found deep in the neck close to the pharyngeal wall Occasionally cysts of this type are found in the thyroid and thymus Sixty-five of the 76 cysts were unilocular The epithelium lining the cysts is usually squamous in type The underlying 'lymphoid' stroma sometimes has the morphologic characteristics of thymus This was the case in 8 of the 76 cases observed The tissue contains Hassall's corpuscles in various stages of development and many of them show cystic change The author rejects many of the hypotheses regarding these cysts, partly because embryologic investigations have indicated their inadequacy The term "branchial cyst" is misleading and should be discarded The term "lateral lymphoepithelial cyst is suggested for the group because of the characteristic histologic aspects This term seems preferable to one referring to some doubtful origin

British Journal of Venereal Diseases, London

25 169-220 (Dec) 1949

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British Medical Journal, London

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Primary Lymphosarcoma of Appendix Occurring in Childhood W H Galloway and E J Owens —p 1387
Surgical Management of the Aged Survey of Results of Major Surgery in 99 Patients over 70 P Childs and S A Mason —p 1389

Vitamin B_{12} in Pernicious Anemia —According to Ungley the isolation of a red crystalline anti-pernicious-anemia factor was achieved almost simultaneously in the United States and in Great Britain He is concerned with the crystalline material isolated by Smith in Britain, which has proved to be identical with vitamin B_{12} The 53 patients selected for treatment had the usual diagnostic features of pernicious anemia, including megaloblastic marrow and histamine-fast achlorhydria A few patients had relapsed after stopping treatment, but most had never been treated To limit the intake of extraneous hematopoietic factors during the initial test period, most of the foods containing such factors were excluded from the diet Reticulocytes were counted daily, hemoglobin was determined by the cyanhematin method, and red blood cells were counted every five days Treatment was withheld for a control period of seven to 10 days so that patients showing signs of spontaneous remission could be excluded Vitamin B_{12} was given intramuscularly in a single dose Doses were graded logarithmically from 1.25 to 160 micrograms While doses of 1 25 micrograms had little or no effect, 2 5 micrograms produced a definite but small response Responses in 15 days to 5 and 7 micrograms were on the average somewhat below, and to 10 micrograms just up to, expectation, with respect to reticulocytes and red blood cells Only in this limited sense can 10 micrograms be regarded as a minimal effective dose Larger doses produced still greater increase of red blood cells Maintenance doses of 10 micrograms of vitamin B_{12} every two weeks were satisfactory in 18 out of 21 patients followed for six to 15 months The exceptions were 3 patients whose sore tongue was not completely relieved, one having macrocytosis in addition Six women had iron deficiency at eight to fifteen weeks which was relieved by treatment with ferrous sulfate

Journal of Endocrinology, London

6 121-244 (Oct) 1949 **Partial Index**

Histochemical Demonstration of Ketosteroids in Adrenal Tissue R J Boscott and A M Mandl —p 132
Influence of Thiouracil on Reproduction and Growth in Rat S B Barker —p 137
Relative Growth of Mammary Gland in Normal, Gonadectomized and Adrenalectomized Rats A T Cowie —p 145
Some Effects of Pregnancy and Lactation on Liver R M Campbell and H W Kosterlitz —p 171
Neutral Steroids of Human Urine S L Tompsett —p 192
Reaction of Body to Multiple Ovarian Grafts M M Breward and S Zuckerman —p 226
Investigation of Human Thyroid Function with Use of Small Doses of Radioactive Iodine, and Effect of Thyrotrophic Hormone on I^{131} Uptake and Excretion M Reiss R E Hemphill B M Murphy and others —p 235

Journal of Hygiene, London

27 221-336 (Sept) 1949 **Partial Index**

Association of Certain Types (Alpha and Beta) of Bact Coli with Infantile Gastro-Enteritis J Smith —p 221
*Study of Herpes Zoster Particularly in Its Relationship to Chickenpox H E Seiler —p 253
Evaluation of Richardson's Verification Test in Sero Diagnosis of Syphilis G I Roberts and J Swale —p 263
Quarterly Ammonium Compounds New Technic for Study of Their Bactericidal Action and Results Obtained with Cetavlon (Cetyl trimethylammonium Bromide) G E Davies —p 271
Glycine and Formic Hydrogenlyase J Gordon and L H Strickland —p 278
Relative Viability of Human Spermatozoa A C Crooke and A M Mandl —p 297
Effect of Treatment at Sewage Works on Numbers and Types of Bacteria in Sewage L A Allen, E Brooks and I L Williams —p 303
Destruction of Bacteria in Sewage and Other Liquids by Chlorine and by Cyanogen Chloride L A Allen and F Brooks —p 320

Herpes Zoster and Chickenpox —Seiler presents the results of a field survey on herpes zoster over a period of eighteen months He reviews a total of 246 patients, only 16 per cent of whom had had hospital treatment It is calculated that the yearly incidence is approximately 2 per thousand population Full investigation and follow-up studies were undertaken in 184 cases The dorsal, supraorbital and cervical regions were affected in almost 90 per cent of the cases Herpes generalisatus occurred in 7 (3 8 per cent) of the cases, recurrent herpes zoster in 6 (3 3 per cent) Three fifths of the patients were over 45 years of age Eleven patients had previously associated with other persons with herpes zoster, while 3 gave a suggestive history of prior contact with chickenpox A condition indistinguishable from chickenpox occurred among the contacts of 10 patients, 12 being affected, and there was 1 instance of concurrent herpes zoster and chickenpox The author is of the opinion that the evidence does not indicate a significant association with chickenpox prior to the onset of herpes zoster but that a condition indistinguishable from chickenpox may follow contact with herpes zoster This may be a generalized manifestation of the virus of zoster rather than true chickenpox

Journal of Mental Science, London

95 785-1068 (Oct) 1949 Partial Index

Reflections on Nature or Affective Disorders Arising from Results of Prefrontal Leucotomy M. Partridge —p 795

Investigation into Intellectual Changes Following Prefrontal Leucotomy R. K Freudenberg and J P S Robertson —p 826

Delinquent Types of Mentally Defective Persons K O Milner —p 843

Educational Types of Mentally Defective Children L T Hilliard. —p 860

Dynamic Factors in Aphasia R Klein —p 874

Observations on Foreign Body Swallowing in Prisons J J Landers —p 897

*Treatment of Mental Defectives with Thiamine. G de M Rudolf —p 910

Treatment of Depression with Desoxyephedrine (Methedrine) G de M Rudolf —p 920

Action of Glutamic Acid in Hypoglycaemic Coma H Weil Malherbe. —p 930

Physiological Instability in Children G D Morgan —p 949

Differential Diagnosis of Some Emotional Disorders of Adolescence (with Special Reference to Early Schizophrenia) H Edelston —p 960

Slowing of Alpha Rhythm of Electro-Encephalogram and Its Association with Mental Deterioration and Epilepsy A Stoller —p 972

Thiamine in Treatment of Mental Defectives —According to Rudolf thiamine has for many years been known as the antineuritic vitamin, although action of this substance in organic nervous trouble is not established Less well known is its action on the higher cerebral processes Investigations appear to show that it has a definite effect on these The entire population 687 persons of a mental deficiency colony was examined Those who had shown no improvement in behavior, either in their lodges, at school or at work were given 3 mg thiamine once daily for five or six months The patients had been in the colony for mental defectives for three to 17 years Five subjects became more violent or destructive In 3 of these cases the treatment was discontinued Of the 90 subjects who received the full course 44 showed improvement in one or more of the following aspects behavior in lodge, work or school social age and intelligence quotient Further observation of these improvements is required to determine whether they are permanent and progressive in nature

Lancet, London

2 1115-1162 (Dec 17) 1949

Peptic Ulcer Cases Reviewed After Ten Years Effect of Medical Treatment and Indications for Gastrectomy L. Martin and N Lewis —p 1115

Penicillin Resistant Staphylococcal Infection in Maternity Hospital M Barber F G J Hayhoe and J E M Whitehead —p 1120

Antipyretic Action of Cryogenine G Bourne —p 1126

Vitamin E in Intermittent Claudication A H Ratcliffe —p 1128

Inhibition by Methionine of Toxicity of Crystals from Agenized Zein Observations on Leuconostoc Mesenteroides. J G Heathcote —p 1130

Eosinophilic Leukaemia and Familial Eosinophilia 2 Illustrative Cases J D Gray and S Shaw —p 1131

Deoxycortone Acetate and Ascorbic Acid in Treatment of Rheumatoid Arthritis. D Le Vay and G E Loxton —p 1134

Penicillin-Resistant Staphylococcic Infection in Maternity Hospital —Barber and associates say that in the course of a routine bacteriologic examination of material from a maternity hospital it became clear not only that there was a high incidence of staphylococcic infection among the infants but also that nearly all the infections were with penicillin-resistant strains of staphylococci Investigations carried out for eight months, during which period the incidence of infections among children remained a fairly constant 14 per cent, revealed Staphylococcus pyogenes in 42 cases of infection. Thirty-six of these yielded penicillin resistant strains only, 3 yielded penicillin-sensitive strains only, 3 yielded both penicillin-sensitive and penicillin-resistant strains Conjunctival swabs taken from 35 healthy infants yielded cultures of Staph pyogenes in 19 cases, in 15 all colonies tested were penicillin resistant. The carrier state of the doctors and nurses of the hospital was studied on three occasions at three month intervals The nasal carrier rate of Staph pyogenes was 58 to 68 per cent, and 70 to 80 per cent of the carriers had penicillin-resistant strains The skin (back of wrist) carrier rate, which was 51 per cent on February 22 was only 19 per cent on May 17 and 10 per cent on August 9 The domestic staff of the hospital was examined, and Staph pyogenes was isolated from the nose or skin of 12 of 17 tested but only 2 yielded penicillin-resistant strains For comparative purposes nasal swabs were taken from 62 women working in a department store and living in an attached hostel. Though 33 were carrying Staph. pyogenes none yielded a penicillin-resistant strain. All of 44 strains isolated from infective processes had a sensitivity to streptomycin similar to that of the Oxford staphylococcus. The same 44 strains were tested for sensitivity to sulfathiazole, 42 had a sensitivity similar to that of the Oxford staphylococcus, but 2 were considerably more resistant

Vitamin E in Intermittent Claudication —Ratcliffe reports observations on patients selected from the group reported on by Boyd and his co-workers and patients subsequently treated at the neurovascular clinic at the Manchester Royal Infirmary Of the patients for whom alpha tocopherol therapy had been recommended by the neurovascular clinic 41 fulfilled all the requirements necessary for inclusion in this series The walking test after three months' treatment showed that 34 were improved and 7 were not. There were 25 controls The walking test showed that 5 of these were improved and 20 not The author stresses that vitamin E is effective only when given in large doses and for a long time From published reports and from a study of the patients treated at the neurovascular clinic, it seems that the optimum dosage is about 400 mg daily This should be given in the form of alpha tocopherol, the biologic activity of the beta and gamma tocopherols being considerably less One of the most striking observations in connection with vitamin E therapy is the delay before the patient begins to notice improvement In obliterative vascular disease this delay is about six weeks Negative evidence of the effectiveness of vitamin E therapy with doses of less than 400 mg daily for periods shorter than three months must therefore be considered inadmissible Of the 7 unimproved patients in this series, 1, who was originally thought to have diffuse obliterative arteritis later had a secondary popliteal thrombosis which would be sufficient to prevent improvement Examination of the case records of the other 6 did not reveal any common factor which might suggest that vitamin E therapy would not succeed

Proceedings of Royal Society of Medicine, London

42 957-1044 (Dec.) 1949 Partial Index

Autoradiographs with Radio-Active Iodine I. Doniach and S R. Pelc —p 957

Thyroid Clearance Rate of Plasma Iodine as Measure of Thyroid Activity N B Myant and E E. Pochin —p 959

Clinical Use of Radio Active Iodine R Fraser —p 962

Optic Nerve Compression and Its Differential Diagnosis S P Meadows —p 1017

Acta Medica Orientalia, Jerusalem

8 193 222 (Nov) 1949 Partial Index

*Induratio Penis Plastica (Peyronie s Disease) Contribution to Its Etiology and Treatment. T Katz Galatzi —p 193

Laurence-Moon Biedl Syndrome with Multiple Congenital Malformations of Urinary Tract J Landau Y M Bromberg and J Schorr —p 205

Induratio Penis Plastica —Katz Galatzi argues that the various hypotheses advanced as to the etiology and pathogenesis of plastic induration of the penis do not stand up under criticism From his own clinical and histologic observations he feels justified in rejecting the theory that plastic induration of the corpora cavernosa has a lymphogranulomatous basis The fact that histologic studies showed great similarity between Dupuytren s contracture and plastic induration of the corpora cavernosa, the numerous cases of simultaneous occurrence of induratio penis plastica and Dupuytren s contracture and the excellent results in the treatment of Dupuytren's contracture with large doses of vitamin E, all prompted the author to try the same treatment in cases of plastic induration of the corpora cavernosa

He cites 3 patients for whom he prescribed vitamin E in 100 mg doses three or four times daily for several weeks, followed by 50 mg doses daily for two or three months The treatment resulted in a cure The patients are well after more than one year without further treatment The author believes that Dupuytren's contracture and induratio penis plastica can be classified under the one heading of fibroplastic diathesis Combined vitamin E and radium therapy is recommended in advanced cases

Archivos Argentinos de Pediatría, Buenos Aires

20 191-240 (May) 1949 Partial Index

*Brucellosis in Children L M Cucullu, F G de Aramburu and D A Daro —p 191
Para Aminosalicylic Acid in Treatment of Tuberculosis C R Gorriti —p 226

Brucellosis — According to Cucullu and collaborators, brucellosis in children is rare Twelve cases have been reported in a pediatric hospital of Buenos Aires from 1935 to 1947 out of a total of 93,000 children The authors cite a girl, 12 years of age who was admitted to the hospital with an acute infection of three months' duration, with periodic fever, vomiting, chills, acute bone and joint pain, loss of appetite, acute anemia, ocular disturbance and rapid loss of weight Excessive perspiration of typical unpleasant odor was present The diagnosis was made on the basis of symptoms and the mother's statement that on the farm where the patient was living many cows had recently had abortions The Huddleson test was strongly positive Brucella abortus was identified in cultures from the patient's blood Roentgenoscopy demonstrated lesions of Brucella infection in most of the skeletal bones, particularly in the cranial bones, the vertebrae, the sternum, humerus, hip bones, and the pelvic bones The sternal lesion led to a spontaneous fracture and deformation of the chest Penicillin, repeated blood transfusions, vaccinations against Brucella, liver therapy, and diet had not effect Cachexia was extreme, and death occurred

Archivos del Instituto de Cardiologia de Mexico

19 475-612 (Aug 31) 1949 Partial Index

Effect of Certain Steroids on Rheumatic Arthritis J Robles Gil and I Gomez Mont —p 607

Effect of Certain Steroids on Rheumatoid Arthritis — Robles Gil and Gomez Mont submit a preliminary report on the results obtained in 30 patients with rheumatoid arthritis, treated with several substances of a chemical formula resembling that of the steroids elaborated by the adrenals The patients were given a daily intramuscular dose of 100 mg of pregnenolone for a week followed by daily administration of 300 mg of the same substance by mouth for one month The treatment resulted in a decrease of joint pain and of local inflammation, increase of movements of the joints and improvement of the general condition in 22 of the 30 patients Testosterone did not show any beneficial influence in rheumatoid arthritis

Beitrage zur Klinik der Tuberculose, Heidelberg

102 1-162 (Aug 1) 1949 Partial Index

Effect of Streptomycin on Pulmonary Tuberculosis, on Intracutaneous Tuberculin Reaction and on Tuberculin as Antigen N Oekonomopoulos —p 1
Therapy of Severe Pulmonary Tuberculosis with Living Tubercle Bacilli (Artificially Produced Cutaneous Tuberculosis) E Köhler —p 13
Treatment of Cavities of Lower Lobe E Markgraf —p 38
Pulmonary Function in Patients with Emphysema H Karch —p 49
Domagk's Tb I 698 E (Sulfathiazole Thiosemicarbazone Preparation) in Treatment of Laryngeal Tuberculosis E Stutz —p 57
Clinical Application of Tb I 698 in Pulmonary Tuberculosis F Kuhlmann and R Knorr —p 69
Observations on Familial Disposition to Tuberculosis J A Laberke —p 101

Clinical Application of Tb I 698 in Pulmonary Tuberculosis —Kuhlmann and Knorr state that in the spring of 1947 Domagk put at their disposal for the treatment of otherwise hopeless cases of pulmonary tuberculosis a preparation known as Tb I 698, which consists of a mixture of equal parts of sulfathiazole and thiosemicarbazone The preparation was available as a powder and in the form of dragees Daily doses of twice 0.25 Gm of the mixed preparation or twice 0 1 Gm of the pure preparation should be continued for sixteen to twenty weeks The authors never observed any permanent damage from intoxication with the drug, but disturbances in the general condition appeared occasionally If they appear in the beginning, they are of slight importance, but if they appear late they are a warning signal of changes in various organs and necessitate interruption of the treatment Cutaneous changes developed especially after use of the mixed preparation and in persons of light complexion, these were sometimes preceded by conjunctivitis Some nurses who dispensed the preparation in powder form likewise contracted conjunctivitis Changes in the blood and in renal function deserve careful watching A total of 233 patients with pulmonary tuberculosis have been treated with this drug The exudative lesions were especially responsive Their treatment should be begun with small doses, whereas in foci with considerable fibrous tissue the response is retarded and larger doses are required The authors believe that some patients will be rendered fit for surgical treatment by this therapy and that mutilating operative procedures may be avoided in persons in the early stages of tuberculosis The treatment with this drug reduces coughing and the quantity of sputum It does not obliterate the cavities, but it often renders the sputum negative while the cavity persists

Nederlandsch Tijdschrift v Geneeskunde, Amsterdam

93 3685-3792 (Oct 29) 1949 Partial Index

Silico-Anthracosis and Tuberculosis in a Coal Mine in the Netherlands A C Appelman —p 3703
*Plasmatransfusions in Hemophilia S van Creveld and M M P Paulssen —p 3714
Indication for Streptomycin Therapy in Pulmonary Tuberculosis C de Langen —p 3724

Plasma Transfusions in Hemophilia —In an earlier communication van Creveld and Paulssen had observed that in hemophilia plasma prepared with heparin was more effective than that prepared with citrate The transfusion of plasma to which a small quantity of heparin has been added as an anticoagulant reduces considerably the coagulation time of hemophilic patients Products of the hydrolysis of heparin shortly after transfusion appear partly responsible for this shortening of the coagulation time There seems to be a difference between the coagulation-promoting factor in citrated and heparinized plasma in favor of that in heparinized plasma The characteristics of prothrombin also seem to differ in these two types of plasma It is known that in the coagulation of hemophilic blood only a part of the prothrombin is used up The authors investigated the prothrombin consumption in hemophilic patients before and after transfusions of citrated or heparinized plasmas and found that the consumption is only slightly or not increased after the transfusion of citrated blood, but after the transfusion of heparinized plasma much more of the prothrombin is used up

Nordisk Medicin, Stockholm

42 1851-1882 (Dec 2) 1949 Partial Index

Fatigue Medical Psychologic Study M C Ehrström —p 1852
By Effects in Treatment with Sulfa Preparations and Antibiotics in 683 Patients H Begtrup and J B Nielsen —p 1857
*Diabetes Mellitus in Bornholm County Hospital 1936 1947 After Examination 1948 N E R Hagensen —p 1860
Lobotomy in Treatment of Certain Forms of Pain I Munkvad —p 1871
Anthisan Ointment in Treatment of Pruritus Ani K. A Rasmussen —p 1875

Diabetes Mellitus in Bornholm County Hospital, 1936 to 1947 —The 188 diabetes patients from 1936 to 1947, Hagensen states, were all treated with standard diet and insulin The disease appears to occur more often in women than in men, and women seem more liable to complications No difference was noted in the average age at death The follow-up in 1948 of 97 of the surviving 105 patients with diabetes revealed greater capacity for work and better subjective state of health in the patients who followed a regulated diet with a constant carbohydrate content than in those who merely avoided sugar, but there was no demonstrable constant variation in the frequency of complications in the two groups

Book Notices

THE REVIEWS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES AND DO NOT REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED

Tumors of Bone By Charles F Geschickter M D Professor of Pathology Georgetown University Medical School and Murray M Copeland M D Profesor of Oncology Georgetown University Medical School Washington D C Third edition Cloth. $17 50 Pp 810 with 642 illustrations J B Lippincott Company 227 231 S 6th St Philadelphia 5 1949

The twelve years that have elapsed since the second edition of this book have witnessed the introduction of a number of new entities in neoplasms of bone and in skeletal diseases of unknown etiology The increase in the scope of the book has led to the inclusion of new chapters such as those devoted to fibrous dysplasia osteoid osteoma tumors of the spine endocrine changes in bone and rare diseases of bone The chapters on embryology of bone and chondroblastomas as well as the chapter on treatment of sarcoma of bone have been rewritten The classification of bone tumors which represent the fundamental material on which this book is based has been extended to include more than 500 additional cases More than 100 new illustrations have been added and a large number of old ones replaced. The authors have presented the best reproductions of representative roentgenograms, gross specimens and photomicrographs

Twenty years have elapsed since the authors began their review of the material on record in the Surgical Pathological Laboratory of Johns Hopkins Hospital and a correlation of the pathologic and clinical findings with follow up results They consulted the original records in conjunction with recent follow-up reports These results have justified the original classification in regard to such disputed entities as benign giant cell tumor, benign and malignant chondroblastoma chondrosarcoma and Ewing s endothelial myeloma

The chapter on embryogenesis of bone and its relation to skeletal tumors is instructive. The classification of bone tumors is unchanged. Bloodgood s twenty two diagnostic rules and therapeutic procedure are still helpful

The book is divided into five parts, viz, embryogenesis tumors of osseous origin, tumors of non osseous origin tumors of specialized skeletal structures and differential diagnosis which considers common inflammatory diseases fungus infections of bone, juvenile lesions of bone and endocrinopathies and rare diseases The last chapter is on therapeutic measures in malignant lesions of bone

Special attention is called to the differential diagnostic chart, which many surgeons have used often to advantage Every orthopedic surgeon, general surgeon industrial surgeon and radiologist should have it framed or posted in a readily accessible place for quick availability It reduces the diagnosis of many bone tumors almost to a mathematic equation

Therapeutische Chemie Arznei und Desinfektionsmittel zur Bekämpfung von Infektionskrankheiten Von Prof Dr Theodor Wagner Jauregg Paper 35 50 Swiss francs Pp 272 with 1 illustration Hans Huber Marktgasse 9 Bern 16 1949

The publisher of this book Medizinischer Verlag Hans Huber, has done much work in the field covered by the text The book is divided into three portions and deals with antiseptics chemo therapeutic agents and antibiotics The essential facts concerning the many preparations under these three listings are put together in succinct form. A number of references are given which are ordinarily not covered in publications from this country Of course it is not as complete as one would expect, since the subjects are of considerable current interest and have been covered in extensive and detailed monographs by various workers in this field However, it is a useful reference book since it provides an idea of the work which was done during a period when there was not a free exchange of literature.

The text is interesting but certainly not contributory to the scientific literature of current interest. The weakness of the book is the lack of many up-to-date references, which probably are only now becoming available through a friendlier exchange of publications

Radioactive Tracer Techniques By Geo K. Schweitzer Assistant Professor of Chemistry University of Tennessee Knoxville and Ira B Whitney Chief Supervisor Radio Chemical Process Development Oak Ridge National Laboratories Oak Ridge Tenn Cloth. $3 25 Pp 241 with 13 illustrations D Van Nostrand Company Inc. 250 4th Ave New York 3 228 Bloor St. W Toronto 5 Macmillan & Company Ltd. St Martin s St. London W C 2 1949

Dr Schweitzer and Dr Whitney have written a basic laboratory textbook on the use of radioactive materials in research Although the book is as the title states written as a manual of tracer technics, it contains much useful material for workers in any field where radioactive materials are used. It should prove to be an excellent laboratory manual for a short course used to train students and technical personnel for work in laboratories using radioactive materials It must, however, be supplemented by a good theoretic textbook in the field or by a course of lectures explaining the theory involved.

The first four chapters stress proper handling of radioactive materials from the viewpoint of both protection of personnel and maintenance of optimum reliability of results Radioactive hazards, decontamination protection measures, room arrangements equipment and experimental methods are discussed in detail by persons who are familiar with the problems encountered at the Oak Ridge National Laboratories and other such installations Chapters V thru VIII are devoted entirely to laboratory experiments in the fields of radiochemistry, radiophysics and radiobiology The group of experiments presented constitutes a good cross section of the type of work one encounters in radioisotope laboratories, and, although not complete, it is fully adequate for training of laboratory personnel Chapter IX deals with the preparation of radioactive reagents to be used in the preceding experiments Included in this chapter are many precautions which will prove useful to anyone working with the various isotopes covered. A group of appendixes including a short table of radioisotopes of tracer interest complete the book

In conclusion it may be said that Radioactive Tracer Techniques fulfils the aims of its authors and also provides a good source of information for persons who seek initiation in this field.

Audiology The Science of Hearing A Developing Professional Specialty By Norton Canfield M D Associate Professor of Otolaryngology Yale University School of Medicine New Haven Connecticut With a Foreword by Gunnar Holmgren Professor of Otolaryngology Stockholm Sweden Publication Number 51 American Lecture Series A Monograph in American Lectures in Otolaryngology edited by Norton Canfield Cloth $1 75 Pp 45 Charles C Thomas 301 327 E Lawrence Ave. Springfield Illinois 1949

This little monograph is a beautiful example of the printer's art. Its format typeface, binding and paper are up to the usual high standards of the publisher There is, incidentally, ample opportunity to appreciate the paper because, owing to the arrangement of the material in sixteen chapters on 39 pages and the mechanical necessity of putting in blank pages at the end to make the numbers come out even there is a remarkably high ratio (almost 1 to 1) of blank space to printed matter

The text proper consists of about 800 lines of type, an average of 50 lines or 500 words per chapter There is also a bibliography of 99 items, a foreword and one chart The author s intention is apparently to indicate the scope of audiology as seen by an otolaryngologist and to point out the large number of different interests and technics that should be represented in an 'audiology center' But the 500 word characterizations of each major area such as Audiometry, Speech Therapists Geriatric Audiology, Acoustic Physicist, Role of the Psychiatrist will not satisfy many of those who operate in areas that are described. Neither is there a clear argument or connecting chain of thought unless it be that all these things are very important

The audiologic center described is evidently inspired largely by the Army and Navy Aural Rehabilitation Centers as organized during World War II It would be interesting to know how closely the organization chart which is the climax of the discussion corresponds to the actual organization of the three present units Army, Navy and Veterans Administration. How many of the 32 "professional abilities' shown in Dr Canfield s chart as necessary for a complete audiologic center are actually represented?

In Dr Canfield's plan the various specialists are organized into five departments (medical, acoustic, neuropsychiatric, speech and social service) under a single director What case load and what kind of fees would be required to support such an organization? Dr Canfield insists it must avoid being "considered a charitable contribution to the unfortunately afflicted individuals" The reviewer fails to see how all this can be accomplished for civilians except through a welfare state

Rehabilitation of the Handicapped A Survey of Means and Methods Edited by William H Soden, Executive Assistant, Physical Medicine Rehabilitation Service Veterans Administration Hospital, Northampton, Mass With a Foreword by Sidney Licht M D Cloth Price, $5 Pp 399 with 3 illustrations The Ronald Press Co, 15 E 26th St, New York 10 1949

This book is a compilation of thirty-eight articles on the various phases of rehabilitation of the chronically disabled which have been prepared by forty-four authors Twenty-four of the authors are physicians The articles are grouped into five major sections The first section includes discussion of some of the general medical and surgical technics as applied to physical rehabilitation The second section indicates what may be accomplished in the rehabilitation of patients with neurologic disorders including cerebral palsy, epilepsy, multiple sclerosis, poliomyelitis and speech defects The third section is devoted to discussions of the various technics of rehabilitation that have been developed for psychiatric patients Vocational and social rehabilitation with an outline of the organization and work of several rehabilitation centers and programs that are already operating successfully is presented in the fourth group of articles The final portion of the book is devoted to articles on educational and psychologic trends which are being developed in conjunction with various programs for rehabilitation of the chronically disabled

This book provides basic material by persons experienced in the field of rehabilitation of the chronically disabled For the most part it can be considered as a guide to the over-all field and indicates what can be done by proper organization and by adequate understanding of the problems involved It enables the physician guiding rehabilitation programs to be aware of the various agencies and trained personnel available and qualified to assist with various phases of the rehabilitation program for his patients The articles present primarily general concepts of the various phases of rehabilitation rather than detailed exposition of technics employed Besides being of interest to physicians responsible for the care of the chronically disabled patients, the book is an informative guide to nonmedical personnel in the fields of education, psychology and social service who play an important part in the over-all rehabilitation programs for the chronically disabled

What Is Man? Evolution's Answer By Alfred Machin Cloth 10s 6d Pp 209 C A Watts & Co Ltd, 5 & 6 Johnson's Court, Fleet St London E C 4, 1949

Any one interested in the questions what is sin, how did man originate, and how did the fight begin between animal instincts and conscience will find this book intensely interesting and stimulating The author has previously published two books dealing with these questions, namely, "The Ascent of Man by Means of Natural Selection" and "Darwin's Theory applied to Mankind" This book contains much taken from these earlier ones, with a fundamental idea added The fundamental idea which unlocks the door and reveals the explanation of the mystery is that man was not originally a social animal, each family lived apart and hated its neighbors Man was forced to become a social animal when by changing climate he was driven down from the trees where he formerly lived, became of necessity a hunter and a plainsman walking on two feet and began to talk and to make weapons for himself and to combine with other men for self protection

What is now called sin is conduct which in its effects is antisocial These animal instincts inherited from our nonsocial anthropoid ancestors, are strong within us and formerly, before socialization, had survival value for the species, but now, since we have come to live in societies, the ability to cooperate within the society is our more valuable characteristic and has had survival value for all Hence we have a new code of ethics which is at variance with the old These new abilities which now determine our survival are called virtues and are such They are embodied in the ten commandments and especially in the highest of all, "Thou shalt love thy neighbor as thyself" They are commonly attributed to divine revelation and command but actually have originated from hard experience The original worn out and discarded virtues of our antisocial anthropoid ancestors, now called sins, are similarly attributed to an evil spirit, or god of hell, the devil, who has been invented to account for them

Hence man's anthropoid instincts are in constant strife with his more recently acquired humanity, and this social humanity is part of his conscience Man alone of all animals lies awake at night thinking of his sins of commission and omission. Reason and conscience presumably appeared, or greatly developed, when he acquired speech some 500,000 years ago This is the argument of the book

Some of the statements which the author makes may be questioned, for example, every man instinctively hates his fellow men That may be true of some but is surely not true of all Mr Machin has made a valuable answer to the old question of how it happens that man is as he is The views which he expresses are comforting to many of us They have been strongly endorsed by the eminent British anthropologist Sir Arthur Keith and have been further developed by Bertrand Russel in his recently published lectures on "Authority and the Individual" Both Sir Arthur Keith's book, "New Theory of Human Evolution" and that of Bertrand Russell just referred to can be read with pleasure and profit in connection with Mr Machin's work

Plant Physiology By Meirion Thomas M A, F R S E, Professor of Botany at King's College Newcastle on Tyne in the University of Durham Durham England Third edition Cloth Pp 504 with 70 illustrations J & A Churchill Ltd, 104 Gloucester Place Portman Sq London W 1 [Grune & Stratton, Inc 381 4th Ave New York 16], 1947

This third edition of an English textbook, published in 1947, has been expanded, particularly on the biochemical side An extensive section on enzymes, particularly oxidative enzymes, zymase and phosphorylase, and new material on photosynthesis and the metabolism of dicarboxylic and tricarboxylic acids are important additions The first part, "Protoplasm," deals with visible structures, physicochemical and biochemical properties of living material, with a proper strong emphasis on plants Part two, "The Absorption, Translocation, and Elimination of Water, Solutes, and Gases," deals generally with the movements of materials and includes a discussion of osmotic phenomena, soils and the usual problems of water and solute Part three, "Nutrition and Metabolism," includes a discussion of general problems and methods as well as specific chapters on photosynthesis, respiration and the polycarboxylic acids Part four, "Growth and Movement," includes, besides these subjects a chapter on growth substances Two appendixes offer basic information about organic compounds and physical chemistry, and a third one includes a bibliography of 344 references and author and subject indexes The volume gives a good picture of the general physiology and biochemistry of plants at an intermediate advanced level It should serve as a satisfactory textbook in plant physiology and as a useful reference volume for workers in other biologic fields

Diseases of the Aorta Diagnosis and Treatment By Nathaniel E Reich, M D F A C P Associate in Medicine Long Island College of Medicine Brooklyn N Y Cloth $7 50 Pp 288 with 60 illustrations The Macmillan Company 60 Fifth Avenue New York 11, 1949

This monograph is distinguished by its brevity It is well organized, with comprehensive coverage of all aspects of diagnosis and treatment Special attention is drawn to the chapter on diagnostic procedures The few shortcomings in the chapters dealing with etiology and pathogenesis of atherosclerosis and dissecting aneurysm do not depreciate the value of this monograph, which has as its primary object the general discussion of diagnosis and treatment of the diseases of the aorta This book will prove instructive to every physician interested in cardiovascular diseases

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES THEY DO NOT HOWEVER REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED EVERY LETTER MUST CONTAIN THE WRITER S NAME A D ADDRESS BUT THESE WILL BE OMITTED ON REQUEST

ACUTE HEAD COLDS IN INFANTS

To the Editor—I would like the opinion of pediatricians with regard to treating acute head colds in infants Is the instillation of medication in isotonic solutions beneficial? Instructing mothers to clean the nostrils with swabs has not been sufficient They insist on nasal medication because other mothers have purchased medicaments over the counter for instillation I have observed that nasal *instillation is not advisable* because of possible pulmonary complications

G W Hanna M D Homer City Pa

ANSWER.—Many physicians advise the use of nose drops which constrict the blood vessels of the mucous membrane. Many mothers request the use of nasal medicaments to relieve discharge and obstruction However there is increasing opposition by physicians and rhinolaryngologists to the use of these remedies They have expressed the opinion that nose drops constrict the vessels subepithelial capillaries and arterioles and also the venous sinuses If vasoconstriction is protracted vasodilatation results sometimes the shrinking and dilatation of the nasal mucosa may lengthen the infective process and increase the danger of sinus involvement or ear infections If ephedrine or other vasoconstrictive drugs are prescribed not much should be expected of their curative value they should be used in dilute form at long intervals between dosage and only for a short time. In acute cases they are of doubtful value, though they may be tried in the presence of nasal obstruction and severe discomfort and restlessness In subacute sinusitis they may be of value by temporarily shrinking the mucosa of the nasal cavities enlarging the drainage space and permitting escape of fluid from the sinuses

PROCAINE

To the Editor—Information is requested concerning the safety of procaine for tissue infiltration anesthesia How useful is the intradermal test for *sensitivity and idiosyncrasy and how should it be performed? How much* does the danger depend on volume used? I have found procaine (novocain®) an extremely useful drug but stories of death in healthy patients following 5 cc. infiltration make one wonder how freely it may be used.

Leonard Casser M D Cresskill N J

ANSWER.—Procaine hydrochloride is generally accepted as the safest anesthetic agent both on the basis of equivalent weights and on incidence of reactions in clinical usage. Procaine is thus specifically valuable for tissue infiltration anesthesia since in many instances the amount of anesthetic agent required is considerable. The addition of epinephrine to a procaine solution or any other anesthetic fluid does not have any direct effect in the control of reactions The action of epinephrine, when epinephrinized procaine is injected into tissue, is one of vasoconstriction of the blood supply in the anesthetized area, so that the rate of absorption of procaine by the circulatory system is decreased This effect greatly increases the duration of anesthesia in the area.

Reactions with procaine seldom exhibit convulsions or coma. Usually the symptomology consists of nausea, retching or vomiting, fast thready pulse, decreased blood pressure, considerable diaphoresis and cold, pale skin. The therapy consists of oxygen inhalations and the intravenous administration of a vasoconstrictor such as ephedrine in one or two injections of 25 mg each If convulsions occur such barbiturates as thiopental (pentothal®), pentobarbital (nembutal®) or amobarbital (amytal®) must be administered intravenously in sufficient dosage to control the convulsion In this event it is imperative that adequate pulmonary ventilation, preferably with a high oxygen content be maintained

Prophylactic protection against procaine reactions is obtained with barbiturate premedication Many reactions occurring with procaine epinephrine solutions are actually not reactions to the procaine but are reactions to epinephrine. The patient feels nervous and highly irritable and may make convulsive like movements with gross over dosage. The patient feels the heart pound and the pulse is full and bounding Nausea and vomiting may accompany this Other reactions result from an accidental intravenous injection Since procaine is used for tissue infiltration in concentrations between 0 5 and 2 per cent, it is possible that as small an amount as 5 cc. might prove fatal if this amount is given intravenously

Intravenous procaine has become a valuable clinical tool With the patient under general anesthesia 1 per cent procaine solution given intravenously will not be harmful in judicious amounts In the unanesthetized patient the concentration of procaine for intravenous use must be reduced to 0 1 or 0.2 *per cent and the solution must be administered slowly to avoid* reactions

Reactions to procaine will increase in frequency with increased dosage. For an adult the maximum dosage is 1 Gm of procaine In terms of volumes and concentrations this is equivalent to 50 cc. of 2 per cent procaine solution or 100 cc of 1 per cent procaine solution or 200 cc. of 0.5 per cent procaine solution This maximum dosage is lowered in pediatric or geriatric practice or debility

Tests for procaine sensitivity are usually of little value clinically The intradermal test is performed by raising a wheal with 0 1 cc of procaine solution intradermally and comparing that with a similar wheal produced with the vehicle of the procaine solution, usually distilled water or isotonic sodium chloride solution

REACTIONS FOLLOWING PROCAINE USED INTRAVENOUSLY

To the Editor—Have there been any reports of anaphylactic deaths from the intravenous use of procaine? All writers on this subject mention the possible dangers but I have been unable to find a single report of death

Boen Swinny M.D San Antonio Texas

ANSWER—Although numerous references have been made to sudden death following administration of procaine (Mayer, E *Ann Otol Rhin & Laryng* **37** 404 [March] 1928 Mayer E. J A M A **82** 876 [March 15] 1924), this has usually occurred after local infiltration and evidence that death was due to anaphylactic shock is lacking Lutz and Solomon (*West Virginia M J* **45** 285 [Oct] 1949) mention that some of the earlier deaths reported as due to intravenously administered procaine might have been due to the epinephrine which was frequently added to the solution Moor (*Med Arts and Sc* **2** 129 [Oct] 1948) points out that with too rapid an intravenous injection of procaine hydrochloride, convulsions may ocur Such convulsions, if not treated promptly, may terminate quickly in death and might be misinterpreted as an anaphylactic reaction

In general, there are two types of reaction to intravenous administration of procaine which if untreated, may result fatally One is collapse which is due to profound depression of the circulatory system, and the other is an action on the central nervous system which in severe form, produces convulsions These reactions usually respond to the intravenous *administration of barbiturates* and an *ampul of thiopental* sodium or other barbiturate for intravenous use should be available for emergency use whenever procaine is administered intravenously A discussion of the treatment of local anesthetic reactions appeared in Queries and Minor Notes in THE JOURNAL April 27 1940, page 1689 There is still considerable controversy regarding the safety of intravenous use of procaine (Allen F M *Arch Phys Med* **26** 759 [Dec.] 1945 Kraft K. A *Canad M A J* **57** 350 [Oct] 1947 Pool N de S Procaine Administered Intravenously, Queries and Minor Notes J A M A. **141** 362 [Oct 1] 1949) Hence this method of administration should be used cautiously and by persons experienced in treating accidents of anesthesia

PSYCHOANALYSIS

To the Editor—It is difficult for me to assess the value of psychoanalysis in the treatment of psychoneurosis How does it compare with nonanalytic psychotherapy?

M.D Michigan

ANSWER—In his article Results of Treatment of Psychoneuroses by the General Practitioner—A Follow-Up Study of Five Hundred Cases (*New York State J Med* **46** 2164 [Oct 1] 1946), Dr Peter G Denker gives results which in the opinion of some doctors compare favorably with the results obtained by psychiatrists and psychoanalysts As a matter of fact there is no reason why the general practitioner if he would acquaint himself with the doctrines and technics of Freud and would give ample time to his patients suffering from emotional disturbances could not do extremely well in relieving and even curing such patients

Psychoanalysis is the treatment of choice in cases of neuroses and psychoneuroses, but modified or even *nonanalytic psychotherapy* might be of help in many cases The chief criticisms of psychoanalysis are, of course, the length of time it takes and the costliness

There are no reliable statistical data for the comparison of analytic versus nonanalytic psychotherapy Evaluations like those attempted at the New York Psychiatric Institute and the Maudsley Clinic in London suffer from the fact that there are differences of opinion concerning the proper classification of psychoneuroses and, more important, the lack of sufficient or proper follow-up However, the same lack of proper follow-up and statistics may be mentioned in the case of analytically oriented psychotherapy, especially in the private practice of psychoanalysis In the present state of knowledge, the choice of analytic versus nonanalytic psychotherapy would have to be decided in accordance with the needs in a particular case

CHLORIDES IN BEER

To the Editor —The average sodium content of unsalted beer is 0 016 per cent, however, most brewers salt their beer, adding up to 10 pounds of salt to each 100 barrels This increases the sodium chloride content of a 12 ounce (340 Gm) container to about 150 mg Can you give me the names of some popular brands of canned or bottled beer to which no salt is added?

M D , New York

Answer —Hugo Rohde, Ph D , acting as associate referee on beer of the Association of Official Agricultural Chemists with headquarters in Washington, D C , made the following report in 1940 with reference to chlorides in beer "Chlorides are normally present in beer in infinitesimal quantity, they have their origin in the brewing water and brewing materials The addition of sodium chloride to the wort—a practice that was followed occasionally several generations ago—is now obsolete Accidental leakage of brine from cooling systems may increase the salt content but this would give rise to an unsalable product" At that time, the sodium chloride content of a series of beers was examined, and the average quantity was found to be 0 012 per cent This figure agrees with the data found on German prewar beers English beers contained considerably more because salt is added to some of these beers in the cask for clarification, the salt will release carbon dioxide, which under pressure aids in the removal of suspended substance which settles on the bottom of the cask However, this practice probably is not followed at present because better clarifying agents are available During the prohibition days, salt was added to malt beverages containing 0 50 per cent alcohol by volume to give more zest to the beverage Dr Rohde does not know of any large shipping brewery which adds salt to beer In the routine chemical examination of beer, sodium chloride is not determined Occasionally the mineral content or ash is measured The mineral content of American beers made from malt and unmalted cereals averages 0 14 per cent About two thirds of this consists of potassium phosphate

LEUKOPLAKIA

To the Editor —Please give me the newest therapy for leukoplakia involving buccal mucosa

Hugh L Houston, M D , Murray, Ky

Answer —Several factors are thought to contribute to the cause and progressive development of leukoplakia Syphilis, if present, may provide a background, and the sex of the person is important, as shown by the great preponderance of leukoplakia among men Faulty oral hygiene, poor condition of teeth or dentures and smoking are held to be locally inciting potent factors

When leukoplakia is seen early in its development, much often can be done to retard or stay its progress Smoking should be given up, the teeth or dentures put in good repair and strict attention paid to the hygiene of the mouth Foods stimulating and irritating to the mucous membrane should be avoided Vitamin A in doses of 100,000 to 400,000 units daily may be of help when taken over a prolonged period It has been reported that estrogens are of benefit, but convincing evidence is lacking

If patches of leukoplakia fail to thicken and progress with these measures, nothing more need be done However, since this disorder may be the forerunner of and furnish the site for malignant growths, one should watch for evidence of such transformation Papillary formations, fissures and ulcers demand histologic examination If malignant changes are not present simple cauterization to include all the thickened parts causes healing with surprising rapidity and ease If the area requiring such treatment is extensive, a systematic plan can be adopted for attacking separate areas, a new area can be chosen after the one previously treated has healed If malignant changes are found, then surgical measures with or without radiation therapy must be employed

TREATMENT OF BRUCELLOSIS

To the Editor —Kindly give information on the comparative efficacy of aureomycin and chloramphenicol (chloromycetin®) in chronic brucellosis and dosage schedules for this disease

LaMar J Hankamp, M D , San Diego, Calif

Answer —To date, reports concerning the comparative efficacy of aureomycin and chloramphenicol in chronic brucellosis have not been published However, clinical investigations which are being carried out seem to indicate that chloramphenicol and aureomycin are equally effective in the treatment of both acute and chronic brucellosis With either antibiotic, the following dosage schedule may be recommended The total daily dose is based on 50 mg of the antibiotic per kilogram of body weight This is divided into four parts, one of which is given at intervals of six hours day and night for seven days Then halve the total daily dose, divide it into four parts and give four times a day for one week Two to three months after this course of treatment has been completed, repeat the therapy by giving the patient a three day course of treatment based *on a total* daily dose of 50 mg of the antibiotic per kilogram of body weight A note of warning must be sounded in relation to the treatment of chronic *brucellosis* A *diagnosis* of this condition which is made on the basis of a positive skin reaction, a positive opsonocytophagic index or a single finding of a somewhat elevated titer of agglutinins against the Brucella organisms is not adequate

MONGOLOID TYPE BABIES

To the Editor —Are mongoloid type babies due to doubled headed spermatozoa?

O O Lyons, M D , Vancouver, British Columbia, Canada

Answer —It is not likely that mongoloid type babies are the result of double-headed spermatozoa Hundreds of specimens must be examined before an occasional double-headed spermatozoa is seen The motility of such a sperm is usually slow, and it is improbable that such a sperm would be capable of reaching the ovum Examination of uterine samples of sperm after natural coitus reveals few of the abnormal sperms In practical experience, 80,000,000 moving spermatozoa are required in the entire ejaculate for conception Of this number, it is usual for 87 per cent to be the normal, oval type cells, and the remaining 13 per cent may be made up of the various abnormal types It is more than likely that less than 1 per cent of the abnormal types would be the double-headed spermatozoa In the competition of the sperm to reach the oviducts, abnormal sperms have little chance Little is known regarding the actual cause of mongol type babies There is a greater chance for this type of baby in women who conceive for the first time toward the end of their reproductive careers, 38 years of age or over However, mongolism has been observed in offspring of women in various age groups

OBSCURE FEVER IN A CHILD

To the Editor —I would like to comment on the query about "Obscure Fever in a Child," in *The Journal* (Nov 26, 1949, p 958) In addition to the thorough study of all possible infections discussed in the previous answer to the question, food sensitization requires definite consideration Food sensitization can produce regularly recurring attacks of fever, with or without other manifestations of allergy Fever associated with recurrent attacks of bronchial asthma, often preceded by nasal allergy which suggests an infectious cold rather than the causative food sensitization, is usually the result of food allergy rather than infection Recurring attacks of urticaria, gastrointestinal symptoms or nasal allergy due to food allergy may also be associated with moderate or high temperatures Food allergy, moreover, may produce a persistent temperature varying in degree and lasting for weeks, months and occasionally for longer periods of time (Rowe, A H Fever Due to Food Allergy, Ann Allergy 6 252-259 [May-June] 1948) Such persistent fever due to food allergy has accounted for unnecessary repeated physical examination, laboratory tests of all types, prolonged bed rest and sanatorium care and restrictions in vocation and recreational activities

These regular, recurrent, self-limited bouts of fever can be explained by the gradual increase in allergic reactivity in the heat-regulating centers to the causative allergenic foods During the allergic attack the reacting bodies are exhausted, and until they gradually reaccumulate above a reacting level the causative foods can be eaten without any fever or other allergic manifestation The regularity of the attacks is easily explained by the time necessary for the reacting bodies to redevelop For the study of food allergy I would recommend the use of my cereal-free elimination diet (Rowe, A H Elimination Diets and the Patient s Allergies, Philadelphia, Lea and Febiger, 1941) This diet should be modified by the exclusion of any foods which have definitely disagreed with the patient, or for which there is a definite dislike, and by the exclusion of any foods in the diet to which large reactions are obtained by the scratch method This diet, as is true with any trial diet for the study of food allergy, must be prepared in an accurate manner, it must be adhered to strictly and taken in sufficient amounts to maintain nutrition during the trial period while food allergy is being studied

Albert H Rowe, M D , Oakland, Calif

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Acta cardiologica. Brussels
Acta chirurgica Scandinavica. Stockholm
Acta clinica belgica Brussels.
Acta endocrinologica Copenhagen
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American Heart Journal St Louis
American Journal of Clinical Pathology Baltimore.
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American Journal of Medicine. New York.
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American Journal of Ophthalmology Chicago
American Journal of Orthopsychiatry New York.
American Journal of Pathology Ann Arbor Mich.
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American Journal of Public Health. New York.
American Journal of Roentgenol and Radium Therapy Springfield Ill
American Journal of Surgery New York
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Archives of Disease in Childhood London.
*Archives of Internal Medicine A M. A. Chicago
Archives des maladies du coeur Paris
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Journal of Bone and Joint Surgery Boston
Journal de chirurgie Paris
Journal of Clinical Endocrinology Springfield Ill.
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*Cannot be lent

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Journal of Urology Baltimore
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Klinische Wochenschrift Heidelberg
Lancet London
Laryngoscope St Louis
Laval Medical Quebec
Lyon chirurgical Paris
Maandschrift voor kindergeneeskunde Leyden
Medical Annals of the District of Columbia Washington
Medical Journal of Australia Sydney
Medicina Buenos Aires
Medicina clínica Madrid
Medicine Baltimore
Medizinische Klinik Munich
Mental Hygiene Albany, N Y
Military Surgeon Washington D C
Minnesota Medicine St Paul
Nebraska State Medical Journal Lincoln
Nederlandsch tijdschrift voor geneeskunde Amsterdam
Nederlandsch tijdschrift voor verloskunde en gynaecologie Haarlem
New England Journal of Medicine Boston
New Orleans Medical and Surgical Journal New Orleans
New York State Journal of Medicine New York
New Zealand Medical Journal Wellington
Nordisk medicin Stockholm
North Carolina Medical Journal Winston Salem
Northwest Medicine Seattle
Ohio State Medical Journal Columbus
Paris médical Paris
Pediatrics Springfield Ill
Pennsylvania Medical Journal Harrisburg
Philippine Journal of Surgery Manila
Physiological Reviews Baltimore
Plastic & Reconstructive Surgery Baltimore
Practitioner London
Praxis Bern
Prensa médica argentina Buenos Aires
Presse médicale Paris
Proceedings of Royal Society of Medicine London
Proceedings of the Society for Experimental Biology and Medicine Utica N Y
Proceedings of the Staff Meetings of the Mayo Clinic Rochester Minn
Progrès médical Paris
Psychiatric Quarterly Utica, N Y
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Yale Journal of Biology and Medicine New Haven.

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The letters used to explain in which department the matter indexed appears are as follows "BI," Bureau of Investigation E,' Editorial C' Correspondence, OS' Organization Section ab ' abstracts, the star (*) indicates an original article in THE JOURNAL.

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Am —American
A —Association
Coll —College
Commn —Commission
Comm —Committee
Conf —Conference
Cong —Congress
Dist —District
Div —Division
Found —Foundation
Hosp — Hospital
Indust —Industrial
Inst —Institute
Internat —International
M —Medical
Med —Medicine
Nat —National
Pharm —Pharmaceutical
Phys —Physicians
Soc —Society
Surg —Surgery
Surgs —Surgeons
S —Surgical

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